

КЛИНИЧНА ХАРАКТЕРИСТИКА И КОМОРБИДНОСТ ПРИ ПАЦИЕНТИТЕ СЪС СЪРДЕЧНА НЕДОСТАТЪЧНОСТ: РЕЗУЛТАТИ ОТ РЕГИСТЪРА ЗА СЪРДЕЧНА НЕДОСТАТЪЧНОСТ НА КАРДИОЛОГИЧНАТА КЛИНИКА "ПРОФ. КИРИЛ ЧИЧОВСКИ"

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CLINICAL CHARACTERISTICS AND COMORBIDITY IN PATIENTS WITH HEART FAILURE: RESULTS FROM THE HEART FAILURE REGISTRY OF THE PROF. CHICHOVSKI CARDIOLOGY CLINIC

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<p>Резюме:</p> <p>Ключови думи:</p> <p>Адрес за кореспонденция:</p>	<p>Целта на изследването е анализ на клиничната характеристика и коморбидността при пациентите със симптомна сърдечна недостатъчност (СН) III и IV функционален клас (ФК). Резултатите са получени от регистъра за сърдечна недостатъчност на Кардиологична клиника "Проф. Кирил Чичовски". В него са вписани всички последователно хоспитализирани пациенти с диагноза СН III и IV ФК по NYHA за период от 10 месеца, които отговарят на Фрамингамските критерии за СН. От включените 166 пациенти 92 (55.4%) са мъже, 96 (59%) са на възраст над 65 год. и 81 (56.2%) имат фракция на изтласкване (ФИ) $\geq 45\%$. При жените преобладава СН със запазена ФИ ($n = 42/65.6\%$), а при мъжете – систолната дисфункция ($n = 42/51.9\%$). Двадесет и четири (14.4%) от пациентите страдат от ХОББ, от тях 13 (54%) са мъже. Анемия имат 23.8%, от тях 24.3% са IV ФК. ХБН е установена при 6 пациенти (3.6%). Захарен диабет тип 2 имат 39 пациенти (23.49%), от тях 17 (43.5%) са мъже. Анамнеза за преживян миокарден инфаркт имат 52 (31.3%), от тях 32 (61.5%) са мъже, а за артериална хипертония – 115 (69%), от които 63 (54.8%) мъже. Хипотония при постъпването са имали 18.6%, от тях 54.5% са IV ФК. Немалка част от пациентите с декомпенсирана СН имат съхранена ФИ, което по-често се наблюдава при жените. Мъжете са в по-млада възраст, при тях преобладават систолната дисфункция и миокардният инфаркт като най-честа етиология на СН. Анемията е честа при пациентите със СН, особено при тези със захарен диабет, и честотата ѝ е толкова по-голяма, колкото по-висок е ФК. Захарният диабет превалира при пациентите със СН с исхемична етиология, особено при тези, преживели миокарден инфаркт. Прави впечатление високият процент на пациентите със съпътстваща ХОББ.</p> <p>сърдечна недостатъчност, регистър, коморбидност</p> <p>Д-р Надя Станчева, Кардиологична клиника, УМБАЛ, бул. "Г. Кочев" 8А, 5800 Плевен, ☎ 064/886-370, GSM: 088 7749 946, e-mail: nadia7706@hotmail.com</p>
<p>Summary:</p>	<p>The aim of the present study is analysis of clinical characteristics and comorbidity in patients with symptomatic heart failure (HF) III and IV NYHA class. The results are from the heart failure registry of the Prof. Chichovski Cardiology Clinic in the University Hospital of Pleven. All consecutively hospitalized for decompensated HF III and IV NYHA class according to the Framingham criteria patients over a period of 10 months are included. Among the 166 patients 92 (55.4%) are men. 96 (59%) are over 65 years old and 81 (56.2%) have ejection fraction (EF) more than 45%. HF with preserved systolic function prevails in the</p>

МОЗЪЧЕН НАТРИУРЕТИЧЕН ПЕПТИД И ТУМОР-НЕКРОТИЧЕН ФАКТОР- α ПРИ ПРОГНОСТИЧНАТА ОЦЕНКА НА ПАЦИЕНТИТЕ СЪС СЪРДЕЧНА НЕДОСТАТЪЧНОСТ

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BRAIN NATRIURETIC PEPTIDE AND TUMOR NECROSIS FACTOR- α IN THE PROGNOSTIC EVALUATION OF PATIENTS WITH HEART FAILURE

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Резюме:	<p>Установена е връзката на неврохормоните и цитокините с неблагоприятната прогноза при хронична сърдечна недостатъчност (СН). Целта на нашето изследване е да се оцени ролята на плазмените концентрации на мозъчния натриуретичен пептид (NTproBNP) и тумор-некротичния фактор (TNF-α) като предиктори на изхода при СН. В проучването са включени 127 пациенти с клинично изявена СН от II до IV ФК по NYHA, от които 69 мъже (57%) на средна възраст 61.9 ± 8.4 год. Пациентите са последователно хоспитализирани по повод на обострена хронична СН. В деня на дехоспитализацията са осъществени стандартни лабораторни и функционални изследвания и е взета венозна кръв за изследване на NTproBNP и TNF-α. Търсени са крайни резултати, дефинирани като: рехоспитализация по повод на обострена СН в рамките на 6 месеца, повече от 2 хоспитализации за 1 година или сърдечно-съдова смърт. Проследени са 121 пациенти (95.3%) за средно 387 ± 117 дни. Поне един първичен краен резултат е регистриран при 54 пациенти (44.6%). При еднофакторния анализ NTproBNP ($\chi^2 = 32.93$, $p < 0.0001$) показва значима предиктивна стойност за първичната крайна цел за разлика от TNF-α ($\chi^2 = 1.17$, $p = 0.76$). При пациенти, хоспитализирани по повод на обострена хронична СН, плазмената концентрация на NTproBNP преди дехоспитализацията допринесе значимо за предсказване на изхода.</p>
Ключови думи:	мозъчен натриуретичен пептид, тумор-некротичен фактор, сърдечна недостатъчност, прогноза
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Summary:	<p>The relationship of neurohormones and cytokines with poor prognosis in chronic heart failure (HF) has already been established. The aim of this study was to evaluate the role of plasma concentration of N-terminal proBNP (NTproBNP) and tumor necrosis factor (TNF-α) as predictors of outcome in HF. One hundred and twenty-seven patients with symptomatic HF ranging from II to IV NYHA functional class were included, of them 69 males (57%) with mean age 61.9 ± 8.4 years. The patients were consecutively hospitalized due to exacerbated HF. On the day of discharge standard laboratory samples were obtained, echocardiography was performed and venous plasma for NTproBNP and TNF-α was collected. The primary endpoint was defined as rehospitalization for exacerbated HF within 6 months after discharge, more than 2 hospitalizations in 1 year or</p>



ДРУЖЕСТВО НА
КАРДИОЛОЗИТЕ В
БЪЛГАРИЯ



НЕИНВАЗИВНО МОНИТОРИРАНЕ НА ЕФЕКТА ОТ ПРИЛОЖЕНИЕТО НА LAEVOSIMENDAN ПРИ ПАЦИЕНТИ С НИСЪК ДЕБИТ

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Резюме

Търсенето на нови неинвазивни методи за оценка на ефекта от провежданата терапия, както и на прогнозата при пациентите със сърдечна недостатъчност (СН) е важен проблем на съвременната кардиология с клинично и икономическо значение. Проследили сме пет пациенти с дилатативна кардиопатия и рефрактерна СН, на които е приложен за първи път в България калциевият сензитизатор *Laevosimendan*. Освен чрез стандартните клинични, функционални и лабораторни методи, ефектът от терапията е оценен чрез изследване на серумната концентрация на $TNF-\alpha$ и $NTproBNP$ изходно и след края на 24-часовата инфузия на медикамента.

Ключови думи: $TNF-\alpha$, $NTproBNP$, *Laevosimendan*, сърдечна недостатъчност

Сърдечната недостатъчност (СН) е клиничен синдром, резултат от различни структурни и функционални нарушения на сърдечния мускул.⁵ СН се характеризира с: неврохуморална активация, понижена помпена функция и намаляване на физически капацитет, с активиране на редица фактори на възпалението, към които спадат т.нар. цитокини.

Тумор некротичният фактор ($TNF-\alpha$) е описан за първи път през 1975 г. Принадлежи към семейството на проинфламаторните цитокини. През 1990 г. Levine и сътр. съобщават, че средната серумна концентрация на $TNF-\alpha$ е повишена при пациентите със СН в сравнение със здрави индивиди.⁵ Този факт се потвърждава от редица други автори. Няколко изследвания показват, че повишаването на концентрацията на $TNF-\alpha$ е в права зависимост с тежестта и функционалния клас СН.^{2,4} Анализът на данните в проучването SOLVD показват тенденция за по-висока смъртност при пациентите със СН с по-високи нива на $TNF-\alpha$ в серума.⁴ Вероятно подобно на неврохормоните, серумните нива на $TNF-\alpha$ биха могли да бъдат предиктори за функционалния клас и клиничния ход на тези пациенти. Цитокините, в частност $TNF-\alpha$, не са причина за СН, но тяхната свръхекспресия води до прогресия на левокамерната дисфункция и ремоделиране.

Израз на неврохуморалната активация при СН е новият биомаркер $NT-proBNP$, който е с вече доказана роля за диагнозата на СН, мониториране на ефекта от терапията^{4,8,11} и прогнозата на СН.⁶ Различни автори съобщават, че изследването на мозъчен натриуретичен пептид (BNP) и неговия неактивен прекурсор N-terminal

ЛЕВОСИМЕНДАН (SIMDAX®) В ЛЕЧЕНИЕТО НА БОЛНИ С НИСЪК СЪРДЕЧЕН ДЕБИТ

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Резюме: Представени са първите пет случая в България на приложение на калциевия сензитизатор Levosimendan в лечението на пациенти с хронична обострена хиподебитна и застойна сърдечна недостатъчност. Всичките пет пациенти са мъже с дилативна кардиопатия, с чести рехоспитализации. При всички преди приложението на SIMDAX® е провеждано лечение с Добутамин с незадоволителен ефект.

Ключови думи: SIMDAX®, Levosimendan, хронична обострена хиподебитна и застойна сърдечна недостатъчност, дилативна кардиопатия.

Хроничната сърдечна недостатъчност (CH) е значим здравен проблем с нарастваща честота, изискващ скъпо лечение и водещ до чести хоспитализации и влошено качество на живот. Благоприятният ефект на АСЕ-инхибиторите⁽¹⁾, бета-блокериите⁽²⁻⁶⁾ и напоследък на спиронолактон⁽⁷⁻⁹⁾ върху преживяемостта и необходимостта от рехоспитализации при пациенти със систолна CH е доказан. Опитът с инотропни медикаменти показва, че те увеличават смъртността и честотата на хоспитализациите при пациентите със застойна CH⁽⁷⁻¹²⁾. Дигиталисовите препарати имат благоприятен ефект върху болестността и са неутрални по отношение на смъртността⁽¹³⁾.

Безопасността при приложението на интравенозни инотропни медикаменти е обект на задълбочени проучвания през последните години. Няма преки доказателства за това, че тези медикаменти увеличават смъртността, но няма и неоспорими факти за тяхната полза по отношение на клиничната картина при пациентите със CH^(14,15). Най-голямото проучване с инотропен медикамент е проведено при 951 пациенти с Милринон, фосфодиестеразен инхибитор. Резултатите не показват благоприятни ефекти на Милринон пред плацебо. Още повече, страничните явления са по-чести в групата с Милринон⁽¹⁶⁾. В резултат на разочароващите резултати от приложението на интравенозни инотропни медикаменти европейските и американски ръководства за лечение на CH препоръчват тези медикаменти (с изключение на Дигоксин) да не се прилагат рутинно, а само като мост към трансплантация^(17,18).

Levosimendan е нов кардиоинотропен медикамент за лечение на декомпенсирана CH. Той има два основни механизма на действие: калциева сензитизация на миофилamentите⁽¹⁹⁻²¹⁾ и периферна и коронарна вазодилатация чрез отваряне на АТФ-зависимите калциев каналите⁽²²⁻²⁶⁾. Сърдечната функция се подобрява без значимо увеличаване на кислородната консумация⁽²⁷⁻³¹⁾ и не предизвиква потенциално малигнени ритмични нарушения⁽³²⁾. За разлика от другите кардиоинотропни медикаменти Levosimendan има благоприятен ефект върху далечната прогноза и преживяемостта при пациентите с тежка CH⁽³³⁻³⁵⁾.

В Кардиологичната клиника „Проф. д-р Кирил Чичовски“ за първи път в България приложихме Levosimendan при пет болни с дилативна кардиопатия и рефрактерна CH. По отношение етиологията на CH двама от пациентите са с идиопатична дилативна кардиопатия, двама са с ИБС и постинфарктна кардиопатия и 1 пациент с ин-

фекциозен ендокардит и непреодолима лявокамерна слабост. На всички пациенти се приложи насищаща доза Levosimendan 12 mg/kg за 10 минути и последваща инфузия 0,1 mg/kg за 24 часа. Проследявани са хемодинамичните показатели, ЕКГ и клинично повлияване на 2 часа, ехокардиографските промени непосредствено преди и след приключване на инфузията. Оценка на състоянието е направена след 1 и 3 месеца. Представяме следните казуси:

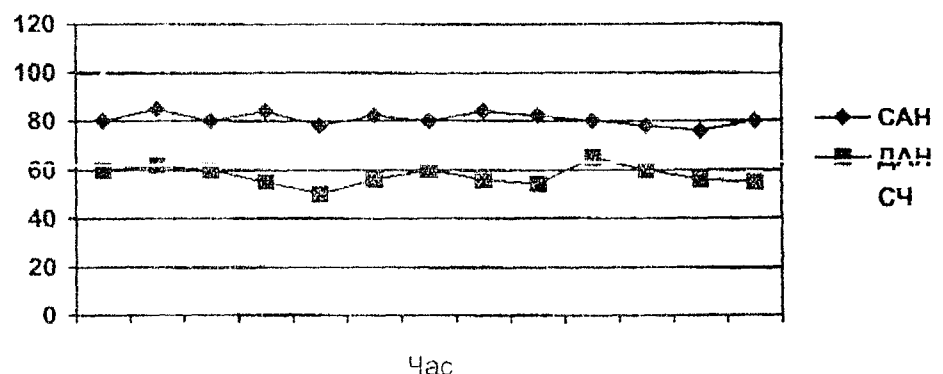
Клиничен случай I

- ✓ Й.К.Ц., 41-годишен мъж, 75 кг.
- ✓ **Етиология:** Идиопатична дилативна кардиопатия. ХЗСН - IV фк.
- ✓ **Симптоматика:** нощен задъх и при незначителни физически усилия, лесна умора при изминаване на десет метра, суха дразнеща кашлица с кръвава експекторация, увеличаване на телото с 3 кг в последната седмица.
- ✓ **Обактивен статус:** увредено общо състояние, акроцианоза, застойни шийни вени до ангулус мандибуле, тахидиспнея - 34/мин.; Изострено везикуларно дишане с дребни вл. хрипове в белодробните основи. Тахиритмична СД-СЧ - 98/мин. Галопен ритъм. Корем над нивото на гръдния кош, хепар на 4 см от ребрената дъга по МКЛ. Крайници с отоци по подбедриците. Пулс - мек, регуларен, симетричен, АН - 80/60 mmHg.

Продължава на 32-а стр.

Фиг. 1. Промени в систолното, диастолното налягане и сърдечната честота по време

на инфузията с Levosimendan (при пациент I)



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НЕВРОХУМОРАЛНА АКТИВАЦИЯ ПРИ СЪРДЕЧНА НЕДОСТАТЪЧНОСТ С ПОНИЖЕНА И ЗАПАЗЕНА ФРАКЦИЯ НА ИЗТЛАСКВАНЕ

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Резюме: Хроничната сърдечна недостатъчност (СН) е социално значим здравен проблем, водещ до висока болестност и смъртност, влошено качество на живот и високи разходи за лечение. Засъбочените анализи на патофизиологичните механизми на синдрома СН предопределят неговата правилна диагноза, лечение и прогноза. Безспорно доказан е фактът, че СН се характеризира чрез активиране на редица неврохуморални механизми като ренин-ангиотензин-алдостероновата система, симпатикусовата нервна система, вазодилататори и натриуретични пептиди, цитокини, вазопресин и матриксни металопроотеинази. Традиционно се смята, че симптомната СН е резултат на систолна дисфункция, която най-често се обективизира чрез ехокардиографския показател фракция на изтласкване. Едва напоследък се оказва, че зна-

чителна част от пациентите със СН имат запазена фракция на изтласкване, което поставя въпросът дали СН със запазена систолна функция има аналогични патофизиологични механизми. Изглежда, че неврохуморалната активация е много сходна, макар и изразена в по-слаба степен, но по-задълбочени изследвания са необходими в тази посока.

Ключови думи: сърдечна недостатъчност, запазена фракция на изтласкване, неврохуморална активация.

N. Stancheva, Sn. Tisheva, A. Goudev – NEUROHUMORAL ACTIVATION IN HEART FAILURE WITH REDUCED VS PRESERVED EJECTION FRACTION

Summary: Chronic heart failure (HF) is a major health problem leading to increased morbidity and mortality, poor quality of life and high economic burden. Sophisticated analyses of the pathophysiologic mechanisms of the heart failure syndrome are indispensable for its right diagnosis, treatment and prognosis. HF is associated with neurohumoral activation of certain mechanisms including renin-angiotensin-aldosterone system, sympathetic nervous system, vasodilators, natriuretic peptides, cytokines, vasopressin and matrix metalloproteinases. Traditionally symptomatic HF is associated with systolic dysfunction assessed echocardiographically with the parameter ejection fraction. Only recently it has been appreciated that a major proportion of heart failure patients have preserved ejection fraction. This fact raises the question if HF with preserved systolic function characterizes with the same pathophysiologic mechanisms as systolic dysfunction. It seems that neurohumoral activation is very similar although to a lower extent but further investigations are necessary in this direction.

Key words: heart failure, preserved ejection fraction, neurohumoral activation.

Хроничната сърдечна недостатъчност (СН) е значим здравен проблем с епидемични размери, свързан с висока болестност и смъртност, влошено качество на живот, високи разходи за лечение и е най-честата причина за хоспитализация.¹ Разбирането на патофизиологичните основи на синдрома СН предопределя неговата правилна диагноза, лечение и прогноза. Предлагани са различни модели за характеризирание на сложния процес на ремоделиране на лявата камера и прогресията до СН. Авторите са единодушни, че СН се характеризира с неврохуморална активация,^{2,4} която включва ренин-ангиотензин-алдостероновата система, симпатиковата нервна система, вазодилататори и натриуретични пептиди, цитокини, вазопресин и матриксни металопротеинази. Дълги години се приемаше, че симптомната СН отразява понижената помпена функция на лявата камера, която се обективизира чрез ехокардиографския критерий фракция на изтласкване /ФИ/. На пръв поглед тази концепция изглежда приемлива. Оказва се обаче, че при значителна част от пациентите със симптоми на СН няма систолна дисфункция и ФИ е непроменена.⁵ Напоследък все повече внимание се отделя на СН със запазена ФИ. Големите популационни проучвания показват, че около 50% от пациентите със СН са със запазена ФИ,^{6,7} а в тези, обхващащи хоспитализирани пациенти,

честотата е малко по-ниска от 50%.⁶ Малко са проучванията, които сравняват СН с понижена и запазена ФИ. Ключовата роля на неврохуморалната активация за развитието и прогресията на систолната СН е установена,⁸ докато при диастолна СН е все още несигурна и са необходими целенасочени изследвания в тази посока. Независимо от ФИ или етиологията на хроничната СН, неврохуморалната активация може да бъде обективизирана чрез различни лабораторни и функционални показатели. От една страна при СН е повишена активността на симпатиковата нервна система и понижена тази на парасимпатиковата. Израз на тази автономна дисфункция е вариабилитетът на сърдечната честота (HRV) и повишените нива на норепинефрин.⁹ HRV отразява промените в продължителността на съседни RR интервали и е израз на балансирания сърдечен контрол.^{10,11} Измерва се чрез времеви и честотни методи на анализ на съседните RR интервали на ЕКГ, запусана най-често чрез 24 часов ЕКГ холтер мониторинг.¹⁰ Пациентите с хронична СН имат значително понижен HRV в сравнение със здравите индивиди.¹² При напреднала СН с еднакъв функционален клас по NYHA, ФИ и етиология HRV може да бъде различен.¹² Този факт допринася за прогностичната оценка на риска от смърт,¹³ включително внезапна сърдечна смърт,¹⁴ често-

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APSC2015-1020 Incidence of Obesity Among Patients With Ischemic Heart Disease – A Comparative Analysis Between Indian and Bulgarian Patients

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Article Outline

- I. [Objective](#)
- II. [Design and Method](#)
- III. [Results](#)
- IV. [Conclusion](#)
- V. [Disclosure of Interest](#)
- VI. [Keywords](#)

Objective

The objective of this study is to analyse and compare the prevalence of Obese patients among patients with ischemic heart disease in Bulgaria and India.

Design and Method

Design: Cross-sectional study among patients with established Coronary Artery Disease hospitalized in the Department of Cardiology. **Methods:** Study was carried out in the Cardiology Department, Dr. Georgi Stranski Hospital, Plevan- Bulgaria and Department of Cardiology, Lourdes Heart Institute and Neuro Center (LHNC), Cochin, Kerala, India. 496 patients who were admitted in the Cardiology Department, Lourdes Heart Institute and Neuro Center (LHNC), Cochin, Kerala, India between 1st June 2012 and 31st Dec 2012 and 470 patients who were admitted in the Cardiology Department, Dr. Georgi Stranski Hospital Plevan- Bulgaria between 1st of January 2012 and 31st Dec 2013 with evidence of ischemic heart disease. Patients were analysed for incidence Obesity and were classified based on Body Mass Index (BMI) to reflect different levels of obesity. All medical records, Clinical Examination including height weight and abdominal circumference and Laboratory results the patients were analyzed for the study.

Results

From the study, it was seen among the Indian patients 7% were Underweight (BMI < 18.5), 43% were with Normal BMI (BMI 18.5-25), 40% are Overweight (BMI 25.5- 30), 20% are with Class I Obesity (BMI 30- 35), 10% are with Class II Obesity (BMI 35.5-40) and 1% is with Class III Obesity (BMI > 40). Among the Bulgarian patients the values are 1%, 23%, 32%, 18%, 15% and 11% respectively. In Indian patients the prevalence of Obesity (BMI >30) among males is 16% and among female patients is 41%. Among the Bulgarian patients the incidence of Obesity (BMI >30) among males is 29% and among female patients is 27%.

Conclusion

Incidence of obesity in patients with Ischemic heart disease is more among Indian population compared to the

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CHANGES IN THE IMMUNOLOGIC MARKERS OF ELASTIN DEGRADATION IN SUBJECTS WITH METABOLIC SYNDROME

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ABSTRACT:

Background: It is known that metabolic syndrome characterized by diabetes, hypertension, dyslipidemia, and central obesity is associated with the syndrome of early vessels aging, characterized by a change in elasticity of the vessel wall. The early manifestation of the metabolic syndrome in younger people in the modern society, leads to earlier manifestation of the complications of early vessels aging, and the combination of several risk factors is crucial and leads to acceleration of the vessels aging. Elastin is one of the main building blocks of the of the vessel wall. Its main characteristic is its elasticity, allowing the vessel to restore its shape after stretching or shrinking. Loss of elasticity is a key component in the pathogenesis of cardiovascular complications.

Materials and methods: A study is conducted on 62 subjects with metabolic syndrome without vascular complications and 42 controls. The main objective of the study was to compare the imunological markers of elastin degradation in both groups and to assess their relationship with the risk factors characterizing the metabolic syndrome.

Results: When comparing the mean value of AEAb IgG in the control group and subject group with metabolic syndrome (respectively 0,45 / - 0.11 and 0.54 / - 0.29) statistically significant higher mean value of AEAb IgG in the group with metabolic syndrome, $t = -1,85$, $p = 0.03$ is observed. When comparing the mean value of ATEAb IgG in the control group and subject group with metabolic syndrome (respectively 0,45 / - 0.13 and 0.55 / - .43) statistically significant higher mean value of ATAb IgG in the group with metabolic syndrome, $F = 6,83$, $p = 0.01$ is observed. There isn't a statistically significant difference in AEAb IGM and ATropoEAb IgM in both groups. In the whole sample AEAb IgG showed positive correlation with total cholesterol with a correlation Spearman coefficient $r = 0,25$, and $p = 0,02$, with triglyceride levels with Pearson correlation coefficient of $r = 0,35$, $p = 0,001$ and with LDL levels with Spearman correlation coefficient $r = 0,29$, and $p = 0,006$. In the whole sample ATropoEAb IgG showed positive correlation with LDL levels with Spearman correlation coefficient $r = 0,29$, $p = 0,006$ and with levels of

total cholesterol with a Pearson correlation coefficient $r = 0,33$, and $p = 0,001$. The Correlations are described by regression analysis and the relationship is linear.

Conclusion: It is proved that the AEAb IgG and ATropoEAb IgG are significantly elevated in the subjects with metabolic syndrome without manifested cardiovascular complications compared with the control group, whereas no difference in AEAb IgM and ATropoEAb IgM has been observed in the both groups.

Key words: Metabolic syndrome, AEAb IgG, ATEAb IgG, risk factor

BACKGROUND:

It is known that metabolic syndrome characterized by diabetes, hypertension, dyslipidemia, and central obesity is associated with the syndrome of early vessels aging, characterized by a change in elasticity of the vessel wall. The early manifestation of the metabolic syndrome in younger people in the modern society, leads to earlier manifestation of the complications of early vessels aging, and the combination of several risk factors is crucial and leads to acceleration of the vessels aging. Elastin is one of the main building blocks of the of the vessel wall. Its main characteristic is its elasticity, allowing the vessel to restore its shape after stretching or shrinking. Loss of elasticity is a key component in the pathogenesis of cardiovascular complications.

Number of studies have shown that the immune system reflects the physiological changes in the elastin metabolism in the vascular wall. In the recent years, using immunological methods, changes in elastin metabolism is examined, as a sign of vascular aging in high-risk subjects with cardiovascular complications.

There isn't sufficient information about the nature of the immune response against tropoelastin and elastin metabolism in patients with metabolic syndrome without cardiovascular complications. The data on the prognostic value in the evaluation process of early vascular aging is scarce. Therefore, the attempt to determine the changes in elastin and tropoelastin metabolism in metabolic syndrome

CHANGES IN THE IMMUNOLOGIC MARKERS OF COLLAGEN TYPE IV DEGRADATION IN SUBJECTS WITH METABOLIC SYNDROME

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 Medical University Pleven, Bulgaria.*

ABSTRACT:

Background: Collagen is the major protein component of the vessels. Collagen type IV is found exclusively in the basal membrane and doesn't form individual fibers, but instead is presented as a polygonal amorphous matrix that is associated with laminin and other matrix macromolecules to form the unique matrix basal membrane. Under the influence of the risk factors characterizing the metabolic syndrome, a variety of basal membrane degrading enzymes are activated. This leads to an early changes in vascular wall and accelerates the vascular aging. The early manifestation of the metabolic syndrome in younger people in the modern society, leads to earlier manifestation of the complications of early vessels aging. Loss of elasticity is a key component in the pathogenesis of cardiovascular complications.

Materials and methods: A study is conducted on 62 subjects with metabolic syndrome without vascular complications and 42 controls. The main objective of the study was to compare the immunological markers of Collagen type IV degradation in both groups and to assess their relationship with the risk factors characterizing the metabolic syndrome.

Results: When comparing the levels of Anti Coll IV Ab IgG in the control group and subjects with metabolic syndrome (respectively 0.28 ± 0.08 and 0.40 ± 0.11) a statistically significantly higher levels of Anti Coll IV Ab IgG were determined in the group with metabolic syndrome, $F = 30.299$, $p = 0.000$. In the whole sample Anti Coll IV Ab IgG showed negative correlation with HDL with a correlation Spearman coefficient $r = 0.26$, and $p = 0.02$. The antibodies showed positive correlation with the diastolic pressure (DP), blood sugar (Gluc), total cholesterol (Tchol), triglycerides (Tg) and LDL. The positive correlations were with Pearson correlation coefficient as follows: DP - $r = 0.22$, $p = 0.04$; Gluc - $r = 0.27$, $p = 0.01$; Tchol - $r = 0.30$, $p = 0.005$; Tg - $r = 0.34$, $p = 0.002$; LDL - $r = 0.32$, $p = 0.002$.

Conclusion: It is proved that the AColl IVAb IgG and are significantly elevated in the subjects with metabolic

syndrome without manifested cardiovascular complications compared with the control group and there is a strong correlation between the Ab and the risk factors.

Key words: Metabolic syndrome, AEAb IgG, ATEAb IgG, risk factor

BACKGROUND:

Collagen is the major protein component of the vessels. Collagen type IV is found exclusively in the basal membrane and doesn't form individual fibers, but instead is presented as a polygonal amorphous matrix that is associated with laminin and other matrix macromolecules to form the unique matrix basal membrane. Under the influence of the risk factors characterizing the metabolic syndrome, a variety of basal membrane degrading enzymes are activated. This leads to an early changes in vascular wall and accelerates the vascular aging. The early manifestation of the metabolic syndrome in younger people in the modern society, leads to earlier manifestation of the complications of early vessels aging. Loss of elasticity is a key component in the pathogenesis of cardiovascular complications.

MATERIALS AND METHODS:

A study is conducted on 62 subjects with metabolic syndrome without vascular complications and 42 controls. The main objective of the study was to compare the immunological markers of Collagen type IV degradation in both groups and to assess their relationship with the risk factors characterizing the metabolic syndrome.

RESULTS:

When comparing the levels of Anti Coll IV Ab IgG in the control group and subjects with metabolic syndrome (respectively 0.28 ± 0.08 and 0.40 ± 0.11) a statistically significantly higher levels of Anti Coll IV Ab IgG were determined in the group with metabolic syndrome, $F = 30.299$, $p = 0.000$, Figure 1.

Immunological changes in collagen metabolism in prehypertensive patients with metabolic syndrome

Authors:

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Smooth muscle

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Metabolic syndrome is associated with early vessel aging, characterized by changes in the vascular wall elasticity. The fibril proteins elastin and collagen occupy an important place in the structure of the vascular wall, and the hemodynamic properties of the vessels are directly dependent on the composition and organization of the extracellular matrix. The aim of the study is to evaluate the immunological parameters of collagen metabolism in subjects with familial predisposition for hypertension with high normal blood pressure and metabolic syndrome. A "case-control" study is conducted on 127 persons, 36 of them are prehypertensive with metabolic syndrome. The methods of the study are based on the enzyme-linked immunosorbent assay for the detection of specific antibodies and the degradation products in the serum, BP measurement, statistical methods.

Results: A weak linear relationship was detected between the pulse pressure / PP / at baseline and IgM-coll-IV-group antibodies in prehypertensive group $y = 0.294 \times 0.009$; $r = 0.19$; $p = 0.02$. Between IgG-coll-III and IgM-coll-I-antibodies anticollagenic antibodies a strong correlation was detected - $y = 0.220 + 0.522 x$; $r = 0.90$; $p = 0.001$. Also a strong linear relationship is established between the quantities of IgG-anticollagen-III antibodies and IgM-anticollagen-tipV - antibodies - $y = 0.217 + 515 x$; $r = 0.820$; $p = 0.002$. This relationship demonstrates that IgG - antibodies against collagen type III form in the initial stages of hypertension and there is a relationship between their levels and those against collagen type V. A significant relationship was established between IgA-collagen IV-and IgA-collagen type-I antibodies: $y = 0.157 \times 0.395$; $r = 0.525$; $p = 0.02$. Highly correlative relationship was established between the exchange of IgA-coll-IV and IgG-coll-III-antibody $y = 0.158 + 0.396 x$; $r = 0.90$; $p = 0.0001$. Such correlation was also found between IgA-coll-IV and IgM-coll-V-antibody $y = 0.145 + 0.41 x$; $r = 0.9$; $p = 0.0001$. From the investigations carried out, a significant linear relationship was found between the levels of IgG-coll-I-antibodies and IgM-coll-IV-anti-bodies: $y = 0.264 + 0.864 x$; $r = 0.612$; $p = 0.0007$. A significant linear correlation was also found between the levels of IgM-coll-V and IgG-coll-III antibody: $y = 0.119 \times 1.012$; $r = 0.693$; $p = 0.0014$.

Conclusions: In prehypertensive patients with metabolic syndrome the collagen turnover of IgG-class type IV collagen is significantly intensified compared to healthy subjects. This occurs even before the blood pressure values reach the levels corresponding to borderline arterial hypertension.

NTProBNP AND HRV AND OUTCOME IN PATIENTS WITH HEART FAILURE WITH REDUCED VS. PRESERVED SYSTOLIC FUNCTION

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ABSTRACT:

Background : Heart failure (HF) is usually associated with reduced systolic function. Elevated plasma concentrations of NTproBNP and heart rate variability (HRV) are predictive of worse outcome in HF patients but there are few data about its predictive value in patients with HF and preserved systolic function.

Purpose and methods: The aim of this study was to determine the prognostic value of predischage NT-proBNP and heart rate variability (HRV) in patients with reduced vs. preserved systolic function admitted for decompensated congestive HF. One hundred and twenty-seven patients were evaluated at the time of discharge by means of echocardiography, conventional laboratory tests, plasma for NTproBNP and Holter ECG for HRV. The primary endpoints of the study were defined as readmission for HF during the first 6 months after discharge, more than 2 hospitalizations for 1 year, or cardiac death.

Results: One hundred and twenty-one patients (95.3%) were followed for mean of 387 ± 117 days. Fifty-four patients (44.6%) had reduced systolic function. Despite of the significant differences in the clinical characteristics of the patients with HF with reduced vs preserved systolic function, prognosis in both groups was poor. Predischage NTproBNP levels were predictive of worse outcome irrespectively of the systolic function. Kaplan-Meier survival curves showed that NTproBNP > 300 pg/ml was associated with significantly worse outcome in both groups and HRV < 20 ms was predictive of event occurrence in the reduced systolic function group. HRV reflected the severity of the systolic dysfunction in the reduced systolic function group.

Conclusions: In hospitalized HF patients predischage NTproBNP levels are associated with poor prognosis in HF patients irrespectively of systolic function while HRV reflects the severity and poor prognosis only of heart failure with reduced systolic function.

Key words: brain natriuretic peptide, heart rate variability, heart failure, prognosis

INTRODUCTION

Heart failure (HF) is usually the most frequent reason for morbidity, mortality and frequent rehospitalizations. [1-3] In order to optimize the healthcare for chronically ill patients researchers continuously search for new non-invasive methods of predicting the risk. The relationship between poor prognosis in chronic HF and neurohormones has already been established. [4-9] Neurohormonal activation is predictive of fatal and non-fatal cardiovascular events in patients with chronic HF. [10] A lot of authors confirm the role of brain natriuretic peptide (NTproBNP) as a biochemical marker with high sensitivity and moderate specificity. Heart rate variability (HRV) in HF is mainly predictive of the risk for cardiac death and pump failure. [11-14] Most studies on the prognostic value of HRV comprise patients with old myocardial infarction or ischemic heart disease with the presumption that the impaired autonomic control of cardiovascular system is one of the mechanisms of cardiac death, especially sudden cardiac death. [15-17] It is only recently that researchers have directed their efforts to establish the role of HRV in chronic HF. Usually HF is identified with systolic dysfunction and little is known about the prognosis of HF with preserved systolic function (HFPSF). The aim of this study was to determine the prognostic value of predischage NT-proBNP and HRV in patients with reduced vs. preserved systolic function HF.

MATERIALS AND METHODS

This study was approved by the local ethic committee of the Medical University of Pleven.

One hundred and twenty-seven patients who fulfilled the Framingham criteria for heart failure and were hospitalized in the Clinic of Cardiology and Rheumatology in the University Hospital "Dr. Georgi Stavrski" in Pleven, Bulgaria

Intraductal Aspiration Cytology and Galactography for Nipple Discharge

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The objective of this study was to assess the diagnostic value of preoperative cytology and galactography in women with nipple discharge using a simple intraductal aspiration method. From May 1997 to February 2002, 172 patients with unilateral, spontaneous nipple discharge without palpable masses underwent intraductal aspiration cytology followed by galactography. Major duct excision was performed in 133 of 155 successful cases. Pathological findings showed solitary papilloma in 65 cases, breast cancer in 16 cases, fibrocystic disease in 17 cases, papillomatosis in 12 cases, ductal hyperplasia in 11 cases, and finally, duct ectasia in 12 cases. Our results showed sensitivity of 75.0% and 68.8%, specificity of 86.3% and 62.4%, and overall accuracy of 85.1% and 63.2%, respectively, for cytological analysis and galactography. This suggests that the intraductal aspiration method for preoperative cytology and galactography is a minimally invasive and well-tolerated procedure that seems to be useful in differentiating between benign and malignant lesions in patients with unilateral, spontaneous nipple discharge.

Key words: Breast diseases – Nipple discharge – Aspiration cytology – Galactography

Nipple discharge in nonlactating breasts is an important complaint; it indicates pathological changes based on endocrinologic or local abnormalities. Although most commonly discharges have a benign etiology, 10% to 15% of the cases are associated with cancer.^{1,2}

The preoperative evaluation of nipple discharge included cytologic examination (exfoliative cytology) and galactography. However, the diagnostic accuracy of diagnosis of spontaneous nipple discharge has been lower than that of aspiration cytology for other breast lesions.³ The second preop-

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Original Article

RISK FACTORS FOR CORONARY ARTERY DISEASES: A STUDY AMONG PATIENTS WITH ISCHEMIC HEART DISEASE IN INDIA (KERALA)

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Summary

Coronary artery disease (CAD) is a condition that develops due to accumulation of atherosclerotic plaque in the epicardial coronary arteries, leading to myocardial ischemia. It is the leading cause of death worldwide and is a common complex disease. A study was carried out in a group of 496 patients with acute coronary syndrome or with angiographic or stress test evidence for coronary artery disease, admitted to the Department of Cardiology at Lourdes Heart Institute and Neuro Centre during the period June –August 2012. The risk factors studied were hypertension, diabetes mellitus, dyslipidemia, body mass index, smoking and family history of CAD. The results demonstrated that in both males and females of the Indian population studies, diabetes and dyslipidemia were major risk factors for CAD, while hypertension was not a major risk factor. Therefore, early detection and treatment of diabetes mellitus and dyslipidemia play a vital role in prevention of CAD in Indian population.

Key words: coronary artery disease, risk factors, hypertension, diabetes mellitus, dyslipidemia, body mass index

Introduction

CAD is a condition resulting from accumulation of atherosclerotic plaque in the epicardial coronary arteries and leading to myocardial ischemia. It is a common multifarious public health issue today and a leading cause of morbidity and mortality in both developing and developed countries [1]. Cardiovascular disease affects millions of people in both developed and developing countries. Although the rate of death attributable to the disease has declined in developed countries in the past several decades, it is still the leading cause of death and extorts a heavy social and economic toll globally. In low and middle income countries, the prevalence of cardiovascular disease has increased dramatically. By 2020, the disease is forecasted to become the major cause of morbidity and mortality in most developing nations [2, 3]. CAD includes a spectrum of disease manifestations ranging from

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СРАВНИТЕЛНА ОЦЕНКА НА ВАРИАБИЛНОСТТА НА СЪРДЕЧНАТА ЧЕСТОТА ПРИ ПАЦИЕНТИ С ПСОРИАЗИС СПРЯМО ЗДРАВИ ЛИЦА

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COMPARATIVE EVALUATION OF HEART RATE VARIABILITY IN PATIENTS WITH PSORIASIS VERSUS HEALTHY INDIVIDUALS

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Резюме. Вариабилността на сърдечната честота (HRV) е индиректен показател за автономната регулация на сърдечно-съдовата система, като отразява автономния контрол на синусовия възел. Този ранен показател за нарушаване на вегетативната регулация на сърдечната дейност е слабо проучен при пациенти с псориазис – дерматоза, за която в последно време има данни за системния ѝ характер. Резултатите от направения анализ върху пациенти с тежка форма на псориазис и контроли показват дискретни нарушения в един от показателите – тенденция, изискваща по-подробни изследвания върху голям брой пациенти.

Ключови думи: вариабилност на сърдечната честота, псориазис, SDANN

Summary. Heart rate variability (HRV) is an indirect indicator of autonomic regulation of cardiovascular system reflecting the autonomic control of the sinus node. This early sign of impaired autonomic regulation of cardiac function is poorly studied in patients with psoriasis – dermatosis which recently has presented evidence of systemic nature. The results from the analysis of patients with severe psoriasis and controls show discrete changes in one of the parameters – a trend that requires more detailed studies on a large number of patients.

Key words: heart rate variability, psoriasis, SDANN

ВЪВЕДЕНИЕ

Вариабилността на сърдечната честота (HRV) е индиректен показател за автономната регулация на сърдечно-съдовата система, като отразява автономния контрол на синусовия възел [1, 2]. HRV може да бъде измерена чрез стандартни линейни и честотни методи за оценка на автономната нервна система и да намери приложение в рисковата стратификация на пациентите и тяхната прогноза [1]. HRV е резултат от непрекъснатото взаимодействие между спонтанната активност на синусовия възел, симпатиковата и парасимпатикова активност и хуморалните фактори [3]. По време на систола артериалното налягане се повишава, барорецепторите се дразнят, чрез

нуклеус трактус солитариус се стимулират преганглийните неврони на вагусовия нерв и вагусовата активност се повишава. В синусовия възел намалява спонтанната деполаризация и RR-интервалът се удължава [4]. Парасимпатиковата нервна система предизвиква високочестотни осцилации на сърдечната честота и нискочестотни – чрез вагусовия нерв. Симпатиковата нервна система причинява нискочестотни колебания [1]. Високочестотните осцилации се регулират отчасти от рецептори в белите дробове и отчасти от централната нервна система. Най-голямо значение за регулиране на честотните колебания на сърдечната честота имат барорецепторите, механорецепторите и хеморецепторите в кръвоносни-

Имунологични промени на гликираните протеини при лица с метаболитен синдром

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Атеросклерозата е хронично, прогресиращо заболяване, което засяга вътрешния слой на големите и средните артерии на организма. За по-ранната ѝ изява и прогресия допринасят редица рискови фактори, компоненти на метаболитния синдром. В последните години, чрез имунологични методи, се проучват промените на крайните гликирани продукти (AGEs) като белег за съдово стареене при високорискови лица със сърдечно-съдови усложнения.

Ключови думи: Метаболитен синдром, късни гликирани продукти, анти-AGEs антитела.

При провеждането на профилактични прегледи сред работещата популация на гр. Плевен за периода март 2009 г. до януари 2011 г., осъществихме проучване, сравняващо нивата на антителата (от клас IgG и IgM) срещу AGEs между лица с метаболитен синдром без съдови усложнения (n=62) и здрави доброволци (n=42). Ние установихме, че AGEsAb IgG и AGEsAb IgM са статистически значимо по-високи при контролната група спрямо лицата с метаболитен синдром ($p < 0.05$). Това приемаме като израз на изчерпване, поради интензифициране на продукцията на AGEs, AGEsAbs и формиране на антиген-антитяло комплекси в ранните етапи от развитието на метаболитния синдром, респ. инсулиновата резистентност.

Атеросклерозата е състояние, при което се наблюдава задебеляване на съдовата стена в резултат на интимално натрупване и акумулация на липиди. С напредването на атеросклеротичния процес се увеличава и честотата на съдовите усложнения. Основните рискови фактори за развитието на атеросклерозата като мултифакторно заболяване^[1] са обединени в общ синдром, наречен метаболитен синдром. Патогенезата на метаболитния синдром не е напълно изяснена. Най-приеманата хипотеза е тази за инсулиновата резистентност (IR) като централен ключов фактор, свързващ абдоминалното затлъстяване с останалите компоненти на синдрома. Според тази глюкоцентрична хипотеза, отговорното първично нарушение е затлъстяването (генетично-детерминирано или хранително-предизвикано), а инсулиновата резистентност и последващата я хронична хиперинсулинемия са „физиологични“ компенсаторни механизми за възстановяване на енергийния баланс и поддържане на еугликемичното състояние в организма. При MC

има нарушаване на функцията на съдовия ендотел, поради дисбаланс и доминиране на вазоконстрикторните медиатори, които са про-тромботични, про-възпалителни, про-рас-тежни, про-оксидантни или с една дума – про-атерогенни.

В последните години все по-голямо внимание се отделя на формирането и натрупването на крайни гликирани продукти (advanced glycation end products) – AGEs. AGEs са крайни продукти от гликиращи реакции, при които глюкозната молекула се свързва с протеинова молекула, липидна молекула или нуклеинова киселина без процесът да се контролира от ензим (неензимно гликиране). Те променят структурата и функцията на протеините в екстрацелуларния матрикс чрез образуване на кръстосани връзки с тях. Това включва и макромолекулите на еластина и колагена, което води до ускоряване на процесите на ранно съдово стареене^[2]. Този процес на неензимно гликиране се осъществява за дълъг период от време, поради което засяга предимно дългоживеещите протеини. Структурните компоненти на съединително-тъканния матрикс или на базалната мембрана, като колаген и еластин, са основните засегнати протеини, но процесът може да включва и миелин, тубулин, фибриноген, C3-комplement и др.^[3,4] Гликираните протеини, след образуването на кръстосани връзки, формират общи имунологични епитопи, в резултат на което се образува популация на анти-AGEs антитела (AGEs Abs). Доказано е, че AGEs имат антигенно сходство, независимо от изходния протеин^[5].

Анти-AGEs антителата се откриват в серума на здрави лица и се отстраняват от организма по типа на „механизъм на почистване от променените структури“ чрез in situ деструкция или опсонизация.

ДОКОЗАHEKCAEHOBAТА И EIKOCAΠEHTAEHOBAТА KИCЕЛИHA – ЗНАЧЕНИЕТО ИМ ЗА APETEPIAЛHATA XИΠEPTOHIЯ

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DOCOSAHEXAENOIC AND EICOSAPENTAENOIC ACIDS – IMPLICATIONS FOR HYPERTENSION

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Резюме:

Хипертонията е важен и безспорен ризиков фактор за сърдечно-съдови заболявания [1]. Проучени са многобройни фактори от околната среда, начинът на живот, които могат да увеличат риска на заболяемия, за които има категорични доказателства, че повишават риска от развитие на хипертония [2]. Други фактори, като например нивото на DHA (докозахексаенова киселина) и EPA (еикосапентаенова киселина) в диетата, все още са в процес на изследване. През последните десетилетия се наблюдава увеличаване на значението на полиненаситените мастни киселини (ПНМК) и в частност на EPA и DHA, които участват в физиологичните и патологичните процеси в организма. PUFA в средно намалява риска от сърдечно-съдови заболявания, а също така имат важни пластични, регулаторни функции, участвайки в структурата на клетъчните мембрани. Съществуват доказателства за връзката между нивото на DHA и EPA в диетата и хипертонията, както и резултатите от изследването на хипертония при тези експериментални модели, както и резултатите от епидемиологични изследвания, в които диетите с по-високо съдържанието им е по-високо.

Ключови думи:

артериална хипертония, DHA, EPA, полиненаситени мастни киселини

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Summary:

Hypertension is an important and persistent risk factor for cardiovascular disease. Studied are numerous environmental factors of the life-style and the internal environment, for which there is a clear evidence that increase the risk of hypertension. Other factors, like the level of DHA and EPA in the diet, are still under evidence. Over the past two decades data have been accumulating concerning the structural and regulatory role of polyunsaturated fatty acid (PUFA) as a component of the biomembranes and organs. There is an evidence of the relationship between DHA and EPA levels in the diet of spontaneously hypertensive and made model of hypertension. In these experimental models as well as results of epidemiological studies in human populations, where the DHA and EPA contents are higher.

Key words:

hypertension, DHA and EPA polyunsaturated fatty acids

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Хипертонията е важен и безспорен ризиков фактор за сърдечно-съдови заболявания [1]. Според последните проучвания в България 42,8% от мъжете и 39,7% от жените са засегнати от хипертония, а разликата в разпространеността между 25- и 64-годишна възраст е около 2-3 пъти.

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ФЛОУЦИТОМЕТРИЧНО ИЗСЛЕДВАНЕ НА ТРОМБОЦИТИ ПРИ ПАЦИЕНТИ С ОСТЪР КОРОНАРЕН СИНДРОМ

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Резюме:

Тромбоцитите имат ключова роля в патогенезата на остър коронарен синдром. Руптурата на атеросклеротична плака е съществена за излизането на тромбоцитите с богатата на липиди сърцевина на плаката и възниква й възможност за тромбобластични субстанции, благоприятстващи тромбообразуването. Тези субстанции могат тромбоцитно активиране, което може да бъде определено чрез флоуцитометрично изследване на повърхностната експресия на тромбоцитните гликопротеини.

Цел на проучването е с приложението на имунофлуоресцентни методи и флоуцитометрична техника да се определи наличието на активирани тромбоцити при пациенти с остър коронарен синдром чрез измерване на повърхностната експресия на тромбоцитни гликопротеини.

Извърши се флоуцитометрично изследване на кръв от 32 пациенти с остър коронарен синдром и 40 клинично здрави лица. При болните с остър коронарен синдром, 23-ма бяха с остър миокарден инфаркт и 9 – нестабилна ангина пекторис. Непосредствено двуцветно имунофлуоресцентно оцветяване с антитела за антигенов и флоуцитометричната експресия на следните тромбоцитни гликопротеини: CD31, CD62P, CD63, CD154.

Сигнификантно повишена процентна експресия (сиг. 0.05) регистрирахме при болните с остър коронарен синдром за всички маркери: CD31, CD63, CD62P и CD154. Тромбоцитите на клинично здравите лица не демонстрираха сигнификантно по-висока експресия на CD154, отколкото болните с остър миокарден инфаркт.

При пациентите с остър коронарен синдром имаше увеличаване на тромбоцити в активирано състояние, което доказва тяхната роля в патогенезата. Всички използвани тромбоцитни маркери са чувствителни за определяне на активирано състояние на тромбоцитите при болни с остър коронарен синдром. Повишената експресия на CD154 може да бъде не само следствие от руптурата на атеросклеротична плака, откъдето започва неговото начало.

Ключови думи:

Флоуцитометрия, тромбоцити, състояние на тромбоцити: CD31, CD62P, CD63

FLOWCYTOMETRIC MEASUREMENT OF PLATELET SURFACE
ACTIVITY IN PATIENTS WITH ACS

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Summary:

Platelets play a key role in the pathogenesis of atherosclerosis. Rupture of atherosclerotic plaque predisposes platelets to contact with subendothelial tissue, which leads to thrombotic

АНЕМИЯ И ТУМОР-НЕКРОТИЧЕН ФАКТОР В ПРОГНОЗАТА НА СЪРДЕЧНАТА НЕДОСТАТЪЧНОСТ

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ANEMIA AND TUMOR NECROSIS FACTOR IN THE PROGNOSTIC EVALUATION OF PATIENTS WITH HEART FAILURE

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Резюме:

Анемията все повече се разпознава като проблем при хроничната сърдечна недостатъчност (CH), свързан с нейната неблагоприятна прогноза. Връзката на тумор-некротичния фактор-алфа (TNF-α) с прогресията на хроничната сърдечна недостатъчност (CH) е установена, но ролята му за предсказване на неблагоприятната прогноза при CH е спорна. Целта на проведеното проучване е да се оцени прогностичната роля на факторите анемия и TNF-α при хоспитализирани пациенти с хронична CH. В проучването са включени 127 пациенти с клинично изявена CH от II до IV ФК по NYHA, от които 69 мъже (57.0%) на средна възраст 61.9 ± 8.4 г. Пациентите са последователно хоспитализирани по повод на обострена хронична CH. В деня на дехоспитализацията са осъществени стандартни лабораторни изследвания, ехокардиография и е взета венозна кръв за изследване на TNF-α. Крайните цели на проучването са дефинирани като рехоспитализация по повод на обострена CH в рамките на 6 месеца, повече от 2 хоспитализации за 1 година или сърдечно-съдова смърт. Проследени са 121 пациенти (95.3%) за средно 387 ± 117 дни. Поне един първичен краен резултат е регистриран при 54 пациенти (44.6%). Както при еднофакторния, така и при многофакторния анализ нито TNF-α ($\chi^2 = 1.17$, $p = 0.76$), нито анемията ($\chi^2 = 6.72$, $p = 0.15$) показват връзка с неблагоприятния изход при CH. Не установихме статистически значима корелационна връзка между анемията и плазмената концентрация на TNF-α. В така проведеното проучване при пациенти, хоспитализирани по повод на обострена хронична CH, плазмената концентрация на TNF-α преди дехоспитализация и анемията не са значими независими прогностични фактори при пациенти със CH. Необходими са по-мощни проучвания за установяване ролята на анемията и TNF-α в прогностичната оценка на CH.

Ключови думи:

анемия, тумор-некротичен фактор, сърдечна недостатъчност, прогноза

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Summary:

Anemia is often recognized as a problem in chronic heart failure (HF) patients probably with strong impact on prognosis. The relationship of tumor necrosis factor-alpha (TNF-α) with the progression of HF has already been established but its role in predicting the outcome in chronic HF is still contradictory. The aim of this study was to evaluate the role of anemia and plasma concentration of TNF-α as predictors of outcome in hospitalized HF patients. One hundred and twenty-seven patients with symptomatic HF ranging from II to IV NYHA functional class were included, 69 males (57.0%) with mean age 61.9 ± 8.4

АНЕМИЯ И ХРОНИЧНА СЪРДЕЧНА НЕДОСТАТЪЧНОСТ. РАЗПРОСТРАНЕНИЕ, ЕТИОЛОГИЯ, КЛИНИЧНО ЗНАЧЕНИЕ И ЛЕЧЕНИЕ

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ANEMIA AND CHRONIC HEART FAILURE. PREVALENCE, ETIOLOGY, CLINICAL SIGNIFICANCE AND TREATMENT

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Резюме. Анемията е често срещана при пациенти с хронична сърдечна недостатъчност (ХСН), но няма единно становище за нейното разпространение. Тя води до влошаване на симптомите и до намален функционален капацитет при пациентите с умерена и тежка ХСН. Анемията е независим прогностичен рисков фактор за повишена заболяемост, смъртност, лош клиничен изход, чести хоспитализации и влошено качество на живот при пациентите с ХСН. Клиничните състояния, свързани с повишен риск за развитие на анемия при пациенти с компрометирана систолна функция, са напредналата възраст, женският пол, хроничната бъбречна недостатъчност (ХБН). Лечението на анемията при болните с ХСН все още се дискутира. Употребата на еритропоедин-стимулиращи протеини (ЕСП) изглежда обещаващ терапевтичен метод, който подлежи на допълнителни клинични проучвания. Протичащото в момента голяма международно проучване RED-HF изследва ефекта на дарбепоедин-алфа върху прогнозата при тази група пациенти.

Ключови думи: хронична сърдечна недостатъчност, анемия, хронична бъбречна недостатъчност, клинични последици и изход, лечение, дарбепоедин-алфа

Summary. Anemia is commonly seen in patients with chronic heart failure (CHF), but there is no consensus regarding the prevalence of anemia in these patients. Anemia has been associated with worsened symptoms and reduced functional status in patients with moderate to severe CHF. Furthermore, it has been identified as an independent prognostic risk factor for morbidity, mortality, negative effect on the outcome of the disease, greater likelihood of hospitalization and worsened quality of life. Clinical circumstances associated with high risk of anemia are older age, female sex, chronic renal failure. The utilization of erythropoietic stimulating proteins (ESP) is a promising therapeutic method. The recent clinical trials will provide evidence for their benefits. The ongoing RED-HF trial is testing the effect of darbepoetin alfa on prognosis in patients with HF and anemia.

Key words: chronic heart failure, anemia, chronic renal failure, clinical consequences and outcomes, treatment, darbepoetin alfa

РАЗПРОСТРАНЕНИЕ

В индустриалните страни приблизително от 0,4 до 2% от населението е засегнато от ХСН. Тя е и причина за около 20% от хоспитализациите [51]. В развитите страни се изразходват около 1-2% от здравния бюджет за лечение на болните с ХСН [10]. Тези факти правят ХСН сериозен медицински и обществен здравен проблем.

Разпространението на анемията при пациенти с ХСН и с ниска фракция на изтласкване (ФИ%) варира в широки граници от 4 до 61% (средно 18%) [2, 4, 8, 13, 18, 19, 24, 34, 37, 39, 42, 50, 52, 54, 59]. Според наши източници разпространението ѝ при лица с понижена ФИ% е около 22% [1]. Голямата разлика частично се обяснява с различното тълкуване на термина „анемия“ от изследователите на публикуваните проучвания.

Съществуват две дефиниции за анемия. Според Световната здравна организация (СЗО) анемията е: „хемоглобинова концентрация < 13.0 g/dl при мъжете и < 12.0 g/dl при жените“ [40], а според Националната бъбречна фондация е: „хемоглобинова концентрация < 12.0 g/dl при мъжете и постменопаузните жени“ [26]. Тези стандартни определения не са съобразени с физиологичните и популационните особености на изследваните пациенти. Не трябва да се пренебрегват и разликите в стойностите на хемоглобина (ХБ) и хематокрита на локалните болнични лаборатории. Въпреки тези противоречия в дефиницията, много проучвания документират увеличеното разпространение на анемията сред пациентите с ХСН и особено при коморбидност с бъбречни заболявания, напреднала възраст, тежко болни

ЕФЕКТ ОТ ИНТЕРМИТЕНТНОТО ПРИЛОЖЕНИЕ НА ЛЕВОСИМЕНДАН ПРИ ПАЦИЕНТИ СЪС СЪРДЕЧНА НЕДОСТАТЪЧНОСТ С НИСЪК ДЕБИТ

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NONINVASIVE THERAPY MONITORING OF LOW OUTPUT PATIENTS ON INTERMITTENT LAEVOSIMENDAN

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Резюме. Направена е оценка на ефекта от провежданата терапия, както и на прогнозата при пациентите със сърдечна недостатъчност след прилагането на левосимендан. Проследени са дванадесет пациенти с дилатативна кардиопатия и рефрактерна сърдечна недостатъчност, на които е приложен за първи път в България калциевият сензитизатор левосимендан. Направена е оценка от лечението на 6-ия месец. Освен чрез стандартните клинични, функционални и лабораторни методи, ефектът от терапията е оценен и чрез изследване на серумната концентрация на NT-proBNP изходно и след края на 24-часовата инфузия на медикамента.

Ключови думи: NT-proBNP, левосимендан, сърдечна недостатъчност

Summary. Looking for new noninvasive methods for therapy monitoring as well as for the prognosis in patients with heart failure is a major clinical and economical problem in the contemporary cardiology. We have studied twelve patients with dilated cardiomyopathy and refractory to treatment heart failure to whom we have applied the calcium sensitizer Laevosimendan for the first time in Bulgaria. The results were assessed after 6 months. The effect of the therapy has been evaluated by standard clinical, functional and laboratory methods as well as by the serum concentration of NT-proBNP before and after a 24-hour infusion of the drug.

Key words: NT-proBNP, laevosimendan, heart failure

ВЪВЕДЕНИЕ

Сърдечната недостатъчност (СН) е клиничен синдром, резултат от различни структурни и функционални нарушения на сърдечния мускул [5]. СН се характеризира със: неврохуморална активация, понижена помпена функция и намален физически капацитет, с активиране на редица фактори на възпалението, към които спадат т. нар. цитокини. Израз на неврохуморалната активация при СН е новият биомаркер NT-proBNP, който е с вече доказана роля за диагнозата на СН, за мониторирането на ефекта от терапията [4, 8, 13] и за прогнозата на заболяването [6]. Различни автори съобщават, че изследването на мозъчния натриуретичен пептид (BNP) и на неговия неактивен прекурсор N-terminal proBNP (NT-proBNP) добавя важна информация за ефекта от лечението, стратификацията на риска и прогнозата при пациентите с хронична СН [3]. NT-proBNP превъзхожда фракцията на изтласкване (ФИ) по отношение на прогнозиране на смъртността при СН [11].

Стандартните методи за оценка на ефекта от терапията при пациентите със СН включват промяна в симптомите и физикалния статус,

рентгенография на белия дроб и сърцето, ЕКГ и ехокардиография. Левосимендан е нов кардиотропен медикамент, който има два основни механизма на действие: калциева сензитизация на миофиламентите и периферна и коронарна вазодилатация чрез отваряне на АТФ-зависимите калциеви канали [7]. Това дава възможност за подобряване на сърдечната функция без значимо увеличаване на кислородната консумация [14]. Подобрената помпена функция се характеризира с намаляване на теледиастолното налягане (ТДН) и теледиастолния обем (ТДО) на лявата камера (ЛК), което от своя страна води до понижаване секрецията на BNP от ЛК. Richards и сътр. съобщават, че промяната в концентрацията на BNP и неговите прекурсори е по-мощен предиктор на вероятността за преживяване или декомпенсация, отколкото симптоматичната оценка [12].

В проучването RUSSLAN [10] се установява, че Levosimendan не води до екстремна хипотония или исхемия, но редуцира риска от влошаване и смърт при болни с левостранна СН и ОМИ.

Целта на проведеното изследване е да се оцени чрез клинични, функционални и лабора-

Almost all patients with atrial fibrillation are hypertensive. In the early stages of the development of hypertension there is a lower degree of remodeling and fibrosis of the atria when

atrial fibrillation occurs, that determines the easier conversion to sinus rhythm.

Key words: atrial fibrillation; arterial hypertension

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EPIDEMIOLOGY OF THE METABOLIC SYNDROME IN PATIENTS HOSPITALYSED WITH NEWLY DIAGNOSED ISCHAEMIC HEART DISEASE

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ABSTRACT:

The metabolic syndrome has been recently recognized as a multiplex risk factor for cardiovascular disease. According of ATP III, a person is diagnosed with metabolic syndrome if any three of the following five criteria are met: abdominal obesity, serum triglycerides, low HDL cholesterol high blood pressure, elevated blood glucose.

Purpose: to analyse the epidemiology of metabolic syndrome among hospitalized patients with newly diagnosed ischaemic heart disease. Ischemic heart disease was diagnosed based on the following criteria: previous myocardial infarction, angina pectoris, or ischemic changes in electrocardiogram.

Results: 225 consecutive patients were hospitalysed

with newly diagnosed ischaemic heart disease for a period of 1 year. Among them 99 (44%) were diagnosed with metabolic syndrome. Impaired glucose tolerance was present in 27 of the patients with metabolic syndrome (27,3%). 54 patients (54,5%) were diabetics. All of them were hypertensive. 90 patients (90,9%) had abdominal obesity. 36 of the patients (36,4%) had high triglyceride levels and 63 (63,6%) had low HDL levels.

Conclusions: High prevalence of metabolic syndrome is a high predictive factor for developing ischaemic heart disease.

Key words: metabolic syndrome, ischaemic heart disease, prevalence

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ANALYSIS OF NON-VALVULAR ATRIAL FIBRILLATION ETIOLOGY

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ABSTRACT:

Background: Atrial fibrillation (AF) is the most commonly seen arrhythmia in clinical practice. Most frequently atrial fibrillation is associated with an underlying structural heart disease such as valvular problems, heart failure with chamber dilatation, coronary artery disease, congenital heart disease, hypertrophic or dilated cardiomyopathy, and atrial septal defect. Atrial fibrillation may be secondary to reversible causes, and treatment of the underlying diseases usually terminates the arrhythmia.

Purpose: to analyse the prevalence of different etiologic factors in patients with non-valvular atrial fibrillation. **Results:** 324 consecutive patients with non-valvular atrial fibrillation were evaluated. In 204 (63%) the

primary reason for atrial fibrillation was arterial hypertension. 80 - (25%) were diagnosed with ischaemic heart disease as a primary reason for AF. Ischemic heart disease was diagnosed based on the following criteria: previous myocardial infarction, angina pectoris, or ischemic changes in electrocardiogram. 40 - (12%) of the patients were with thyroid gland disorder.

Conclusions: Arterial hypertension is the primary reason for atrial fibrillation due to early and rapid progressive atrial remodeling and atrial fibrosis, which is a morphological prerequisite for the manifestation of atrial fibrillation.

Key words: atrial fibrillation, etiology, morphological changes

PARENT'S COMPLIANCE IN TREATMENT OF CONGENITAL HAND SYNDACTILY

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ABSTRACT:

Syndactyly is one of the most common congenital malformation of the upper limb. Syndactyly can be simple or complex and complete or incomplete. Traditionally, operation was postponed until age 3-4 years but currently many surgeons do release at age 9 months to 1 year. There are many

reasons for the duration of its surgical correction.

We examine the compliance of parents of patients with syndactyly. We present a case of syndactyly with brachidactyly.

Key words: Syndactyly, Congenital, Brachidactyly, Surgical correction.

ULTRASOUND IN NORMAL SHOULDER ANATOMY

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ABSTRACT:

Recently, ultrasonography is the new trend in orthopedics and traumatology. It is effective in the evaluation of joint involvement in patients with different orthopedic diseases, and may be useful in diagnosis and in monitoring the soft tissues. The method as non-invasive, accurate and convenient one, directs the orthopedist to a quick and cost effective method of evaluation. The aim of our report is to present the

echographic anatomy of shoulder joint, an anatomic area that often produces pain and the exposure to trauma agents is not unusual. As mentioned above, the range of sonography is wide, so we are going to describe only the echographic anatomy of the shoulder joint. Understanding of the echographic anatomy of the shoulder joint is paramount for the sonographer as it provides anatomic/sonographic correlation throughout, helping him obtain the optimal field of view.

DISTRIBUTION OF ATRIAL FIBRILLATION AMONG HYPERTENSIVE PATIENTS

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ABSTRACT:

Background and aim: Arterial hypertension is associated with early and rapid progressive atrial remodeling and atrial fibrosis, which is a prerequisite for the morphological manifestation of atrial fibrillation. A survey on the distribution of atrial fibrillation (AF) in patients with essential hypertension who were treated at Department of Cardiology and Rheumatology Prof. K. Chichovskii, "MH" Pleven for the period 01-Jan-2010 - 30-Jun-2010, was conducted.

Results: Total number of patients - 954, of whom 918 were diagnosed with hypertension. Of the total number of patients - 324 were with atrial fibrillation - 34%. From the patients with atrial fibrillation (n = 324), with AH were 306 (94.4%) and those without hypertension were 18 (5.6%). Of

the total number of patients with atrial fibrillation (AF) with paroxysmal AF were 102 (31%) and 222 (69%) with persistent or permanent AF. Among patients with paroxysmal AF 60 are men (59%) and among patients with persistent or permanent AF 108 are men (49%). From the total number of patients with paroxysmal AF 54 (53%) have over 5 year duration of AH and 48 (47%) have less than 5 year duration of AH. From the total number of patients with persistent or permanent AF 174 (78%) have over 5 year duration of AH, 30 (13%) have less than 5 years of duration of AH and 18 (9%) have no history and physical data for AH. The average age of patients with paroxysmal AF was 59.5. The average age of patients with persistent or permanent AF was 71.8.

Conclusion: The arterial hypertension is a major predisposing factor for the development of atrial fibrillation.

Almost all patients with atrial fibrillation are hypertensive. In the early stages of the development of hypertension there is a lower degree of remodeling and fibrosis of the atria when

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Key words: atrial fibrillation, etiology, morphological changes

Специализиран научен съвет по кардиология,
белодробни болести, нефрология, физioterapia,
спортна и военна медицина при ВАК

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сърдечната недостатъчност с понижена спрямо
запазена систолна функция

АВТОРЕФЕРАТ

на дисертационен труд за получаване
на образователна и научна степен „ДОКТОР“

Плевен, 2007 г.

ФК – функционален клас
ФС – фракция на скъсяване
ХКМП – хипертрофична кардиомиопатия
ХОББ – хронична обструктивна белодробна болест
цГМФ – циклически гуанозин монофосфат
ЦНС – централна нервна система

Въведение

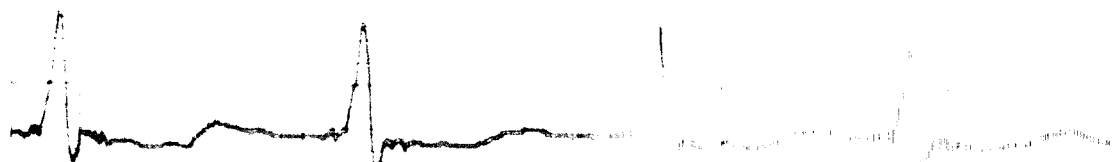
Хроничната сърдечна недостатъчност (СН) е фундаментален здравен, социален и икономически проблем на съвременното общество поради високата болестност и смъртност, тежка инвалидизация с влошено качество на живот, непрекъснат нарастващи нужди от скъпо струващо лечение и рехабилитация на пациентите.

Дълги години СН се приемаше като еквивалент на систолна дисфункция и поради тази причина големите рандомизирани клинични проучвания изключваха пациентите със симптомна СН, но загледен контрактилитет на миокарда. Едва напоследък се обръща внимание на факта, че пациентите със СН могат да се представят както с понижена, така и със запазена систолна функция и че това е една голяма група със своя клинична характеристика и лоша прогноза, по което литературните данни в тази насока са все още твърде оскъдни.

Установена е връзката на неврохормоните и пептидите с неблагоприятната прогноза при хронична СН. Знае се, че вариабилитетът на сърдечната честота е понижен при СН. Почти всички проучвания, при които е изучавана прогностичната роля на N-терминален мозъчен натриуретичен пептид (NT-proBNP – N-terminal pro brain natriuretic peptide), тумор некротичен фактор алфа (TNF- α) или вариабилитет на сърдечната честота (HRV – heart rate variability) са провеждани с пациенти със сърдечна недостатъчност с понижена систолна функция (СНПСФ). Не е правена клинично-прогностична оценка на СН чрез модел, в който едновременно да участват NT-proBNP, TNF- α и HRV, които са израз съответно на неврохормоналната активация, инфламаторен отговор и автономна дисрегулация при СН. Ние си поставихме за цел да характеризираме синдрома СН със запазена спрямо понижена систолна функция чрез NT-proBNP, TNF- α и HRV и да установим параметрите с най-голяма прогностична стойност, за да се открият високорисковите пациенти по отношение на често рехоспитализации поради влошаване на СН и смърт чрез прогностичен модел. Смятаме, че тези нови показатели ще допринесат за по-добрата прогностична оценка на пациентите със СН, което е от съществено значение за оптимизиране на терапевтичния, рехабилитационен и ресоциализационен подход спрямо тази голяма група пациенти.

Многофакторният логистичен анализ показва, че най-голямо прогностично значение има моделът, който включва NT-proBNP, систолно артериално налягане при рехоспитализация, лявоатерна (ЛК) фракция на изтласкване (ФИ) и недостатъчен отговор към диуретичната терапия.

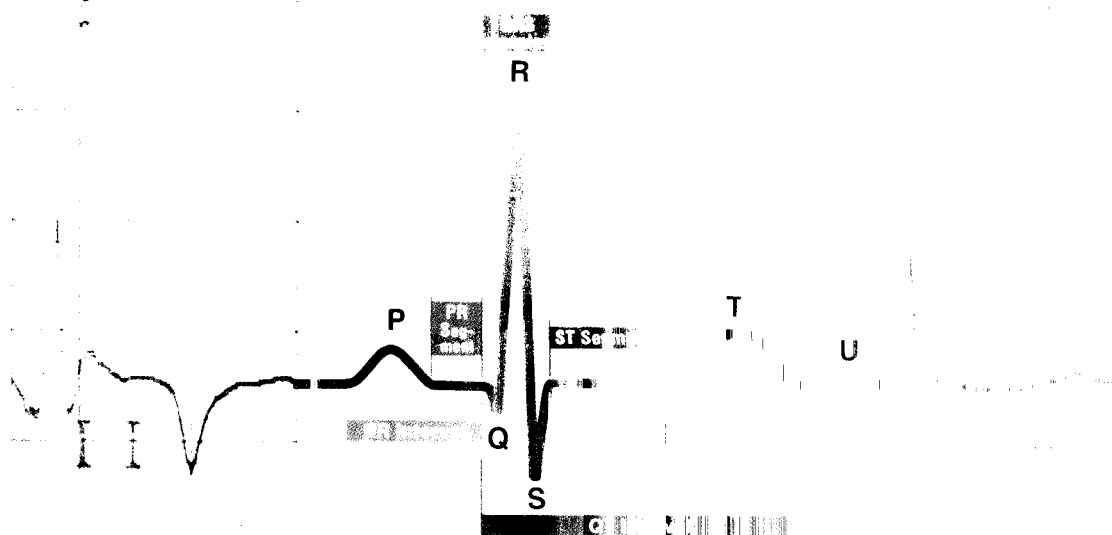
10 mm/mV



Надя Станчева, Снежана Тишева

Nadya Stancheva, Snezhana Tisheva.

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for medical students

25 mm/s

P203

Analysis of parameters of EuroQol 5D-5L to assess the quality of life in patients with Permanent atrial fibrillation

C James,¹ S Tisheva,¹ K Gospodinov,¹ D Gaidarova,¹
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Introduction: Atrial Fibrillation is the most commonly sustained arrhythmia and the most heterogeneous arrhythmia with regards to the individual spectrum of resulting symptoms. Assessment of quality of life has received increasing attention as an outcome measure of the subjective sequel of the disease. The functional effect of this chronic condition, as perceived by the patient could be estimated by introducing the quantitative approach of - Health Related Quality of Life (HRQoL). The aim of this study is to analyze the parameters of EuroQol 5D - 5L in patients with permanent atrial fibrillation.

Method: Questionnaire based cross sectional study was done among 256 patients admitted in the Department of Cardiology in the University Hospital with permanent atrial fibrillation (confirmed from history obtained from patient and from old medical records) between 1st January 2013 and 31st December 2014. EuroQol 5D- 5L questionnaire was introduced in these patients during the hospital stay. Euro Qol 5D - 5L comprises of 5 dimensions: mobility, self-care, usual activities, pain/discomfort and anxiety/depression. Each dimension has 5 levels: no problems, slight problems, moderate problems, severe problems and extreme problems.

Results: Mean age of the study population was 72±5 years. The distribution of the group based on sex is male - 133 (44%) and females - 143 (56%). Among the patients with permanent atrial fibrillation, on basis of EuroQol 5D - 5L, in case of mobility 16% were with moderate problems, 10% with severe problems and 6% with extreme problems. 18% of the patients had moderate problems, 8% had severe problems and 4% were with extreme problems on self care dimension. When considering the dimension pain/discomfort, 32% had moderate problems, 22% had severe problems and 12% had extreme problems. In case of anxiety/depression, 38% had moderate problems, 24% had severe problems and 12% were with extreme problems. With usual activities, 20% had moderate problems, 16% had severe problems and 6% had extreme problems. The patients with extreme problems tend to be with higher age and were majority of female sex for all the dimensions of EuroQol 5D - 5L.

Conclusion: The study revealed that the incidence of anxiety/depression and pain/discomfort are at a higher rate in patients with permanent atrial fibrillation, where as other

dimensions of EuroQol 5D - 5L, namely mobility, self care and usual activities tends to be normal. Hence proper psychological rehabilitation and care should be considered in these patients in-order to improve their quality of life.

P204

Risk factors associated with atrial fibrillation in adults diagnosed under the age of 60-a systematic review

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Purpose: Research has suggested that identification of modifiable risk factors is an important factor which contributes to an early diagnosis atrial fibrillation (AF). Current research reported risk factors of AF and there is an increasing interest to establish whether younger adults with AF have different risk factors compared with older adults. The primary objective of this review was to identify risk factors associated with early-onset AF in adults diagnosed under the age of 60.

Methods: We used the National Institute of Health Care Excellent Guidelines (2012) to conduct a systematic review and search MEDLINE, EMBASE, PsycINFO and CINAHL to November 2014. Data extracted included risk factors measured and strength of the associations.

Results: We screened 2,734 papers and found eleven observational studies, five cohort and six case-control studies that met the inclusion criteria. Most of the reviewed studies consisted of 2 or more common sources of bias. Strong associations were reported for the risk factors listed in the table below. Only one study with a strong methodological quality had conflicting findings for single nucleotide polymorphism (SNP) rs2200733 and its association with AF (OR 1.62; 95% CI, 0.98 to 2.62; P= 0.06).

Conclusions: The relationship between different risk factors and AF was highly prevalent among family members. Strong associations were reported between AF and severe psoriasis as well as extreme obesity in adults under the age of 60 compared to older adults.

Table 1. Table of summary of key findings.

Risk factors	Findings
Gene-association studies SNP rs12465883 SNP rs2200733	OR 1.18 (95% CI 1-1.39) OR 1.3, (95% CI 1.07 -1.58) P=0.0056
Inflammatory diseases Severe psoriasis	RR _{adj} 2.98, (95 % CI 1.8 - 4.19)
Obesity Very obese	HR _{crude} 3.78, (95% CI, 2.02- 7.07) HR _{crude} 2.99, (95% CI, 1.53 - 5.85)
Impaired lung function Low forced expiratory volume in one second (FEV1)	HR _{adj} 1.71, (95% CI 1.3-2.26) HR _{adj} 1.49, (95% CI 1.3-1.72)

Table 1. Clinical variables.

Age, years	67±18	HF de novo n (%)	15 (50)	SBP admission mmHg, mean (rank)	142 (85-200)
Males n (%)	18 (60)	NYHA III/IV n (%)	23 (77)	Start ivabradine, day	3±3
HTA n (%)	23 (77)	HFrEF n (%)	22 (73)	Beta-Blockers at discharge n (%)	24 (80)
Diabetes n (%)	11 (37)	HFpEF n (%)	8 (27)	Target dose BB at discharge n (%)	6 (19)
eGFR (DMRD)	54±11	Left ventricular EF, %	37.5±17.5	IECA's/ARAI at discharge n (%)	21 (70)
Ischemic cardiopatia n (%)	11 (37)	Hospital stay, days	6.7±4	Target dose IECA's/ARAI at discharge n (%)	33 (48)
Dilated cardiomyopathy n (%)	9 (30%)	HR at admission Γ(0)	99±19	Ivabradine dose at discharge, mg/12h	5±1.3

P89

Acute heart failure in a patient with iatrogenic cushing syndrome on treatment for gout

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Introduction: Among uncommon causes of acute heart failure, endocrine disorders such as Cushing's Syndrome can be cited. Patients with Cushing's Syndrome have nearly 4 times increased cardiovascular mortality as compared to the general population. Iatrogenic Cushing's Syndrome (caused by treatment with corticosteroids) is the most common form of Cushing's Syndrome.

Case: A 41 year old male admitted to the ICU with history of breathlessness and bilateral pedal edema of 2 weeks duration which intensified during the past 3 days. Since 2010 patient is on treatment with high doses of corticosteroid by a GP for recurrent episodes of attacks of gout and later on patient himself continued on treatment with corticosteroids due to the excellent symptomatic relief. On admission patient was with features of congestive heart failure and hypotension (BP -80/50). Patient was clinically cushingoid. BUN was 540 µg/ml (normal 0-100). Serum troponin and D-Dimer was negative. Uric acid level 862mmol/dl. TTE revealed severe global dilated cardiomyopathy with LVEF of 28%. Patient was treated with intravenous furosemide and inotropic agents with good clinical improvement. Cardiac catheterisation demonstrated normal coronary arteries. Extensive investigation for autoimmune, infective and infiltrative causes cardiomyopathy were negative. Patients reported alcohol intake was 5-4

units/week. No family history of cardiomyopathy. Patient was treated with full standard heart failure medications including ACE inhibitors, beta-blockers and aldosterone antagonists. Endocrinology investigations confirmed diagnosis of Iatrogenic Cushing's syndrome. Rheumatologist tapered off corticosteroids and started on therapy with Etoracoxib, Colchicine, Febuxostat and Benzbromarone. Patient was under medical follow-up since last 6 months and control echocardiography showed improvement in LVEF to 35% at 3rd month and 42% in 6 months. During the follow up period NYHA class improved to Class II, BMI reduced and patient was with fewer acute gout attacks and decrease in tophi size.

Conclusion: Cushing's syndrome is an uncommon but potentially reversible cause of dilated cardiomyopathy and Heart Failure, most often reported in patients with hypercortisolism, in our case by exogenous supply. Injudicious use of Corticosteroids is to be avoided. Easy access to drugs in pharmacies and many adverse reactions in uncontrolled application impose need for health education of patients. It needs strong measures to limit the free access of drugs obtained on prescription in pharmacies.

P90

Analysis on the parameters of the EuroQol- 5 D -5L among patients with Acute Decompensated Heart Failure

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Introduction: Acute decompensated heart failure is the worsening of the symptoms, typically dyspnoea, oedema and fatigue, in a patient with existing heart disease. The condition is caused by severe congestion of multiple organs by fluid that is inadequately circulated by the failing heart. The psychological and physical impact of this condition is very disturbing. The aim of this study is to analyze the impact of acute decompensated heart failure on the quality of life of these patients.

Design and methods: Questionnaire based cross sectional study was done on 312 patients admitted with acute decompensated heart failure (established by clinical and diagnostic methods including chest radiography, echocardiogram and laboratory investigations) in the Department of Cardiology in the University Hospital between 1st January 2013 and 31st December 2014. EuroQol - 5D-5L questionnaire was administered in these patients during the followup visit within 1 month of dehospitalisation. EuroQol 5D-5L comprises of 5 dimensions: mobility, self care, usual activities, pain/discomfort and anxiety/depression. Each dimension has 5 levels: no problem, slight problems, moderate problems, severe problems and extreme problems.

Results: The study revealed that among patients with acute decompensated heart failure, on the basis of EuroQol 5D-5L, in case of dimension mobility - 36% had moderate problems, 28% had severe problems and 8% were with extreme problems. 37% of patients had moderate problem, 26% had severe problems and 5% were with extreme problems on self-care. In consideration of the dimension pain/discomfort - 28% reported moderate problems, 22% severe problems and 8% extreme problems. In case of anxiety/depression - 20% had moderate problems, 38% had severe problems and 22% of patients were with extreme problems. When considering usual activity dimension of EuroQol 5D-5L, 26% had moderate problem, 28% had severe problems and 10% were with extreme problems.

Conclusion: The study revealed that the incidence of anxiety/depression, pain/discomfort, problems with mobility, self care and impairment of usual activity are at a high rate in patients with acute decompensated heart failure. Hence proper psychological and physical rehabilitation is to be implemented in addition to the pharmacological therapy, in patients with acute decompensated heart failure in-order to improve their quality of life.

P91

Evaluating the long-term effectiveness of Levosimendan use on the quality of life in patients with advanced heart failure

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Purpose: To assess the impact of the use of levosimendan infusion on the quality of life and psychosomatic status in patients with advanced heart failure (AHF) during 1 year's study.

Materials and methods: 68 patients with AHF were included in our study. 30 patients were randomized in the group 1 without use of Levosimendan, 25 patients were randomized in 2nd group - Levosimendan infusion was performed once at the beginning of study, and 13 patients had 2 or more Levosimendan infusions (2,2±0,1) during 6 month from the start of our trial, and they joined the group 3. The middle age of patients 57±5,6 years, body mass index 25,7±1,2. All patients were assessed 4 times: before LV infusion (D0), in 3 month (M3), in 6 month (M6) and in 12 months (M12). All the patients were evaluated with EQ5D scale and Medical Outcomes Study Depression Questionnaire. At the beginning of study and M12 we analyzed NTproBNP of all patients with ELISA.

Results: 1-year mortality in Group 1 was 27% (8 patients), in Group 2 - 16% (4 patients), in Group 3 - 15% (2 patients). At baseline, depressive symptoms had 17 patients (55%) in group 1, 15 patients (64%) in group 2 and 7 patients (56%) in group 3. After 12 month of study, suffered from depression 82% of patients in group 1, 55% in group 2 and 40% in group 3, that was associated with worsening of all grades of EQ5D (mobility, self-care, usual activities, pain/discomfort and anxiety-depression) in group 1, improvement on 30% in group 2 and improvement on 25% in group 3 by the end of study. NTproBNP decreased in group 1 on 18%, increased in group 2 and group 3 accordingly on 15% and 24% compared to M0.

Conclusions: Levosimendan infusion in patients with AHF is effective and useful. It reduces mortality, improves quality of life and psychosomatic status, which is an additional advantage in the long-term prognosis of life in these patients. The frequency of levosimendan infusion has additional advantages in increasing life expectancy and improving their quality.

P92

Heart failure - the main cause of hospital death and morbidity of myocardial infarction in women

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Research included 344 women with a myocardial infarction (MI) aged from 30 till 75 years. All women were divided into age groups: young till 44 years, middle age of 45-59 years, elderly - ≥60 years.

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Circulation: Cardiovascular Quality and Outcomes



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Abstract 241: Evaluation of the Parameters of the Euro Qol- 5 D Questionnaire Among Patients With Ischemic Heart Disease With Normal and Elevated BMI

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Abstract

Objective: The epidemic of obesity and obesity related morbidities is an important public health challenge, and is paralleled by growing incidence of metabolic syndrome which acts as a strong and significant risk factor for Ischemic heart disease and other atherosclerotic vascular events. The psychological impact of these chronic conditions can be very disturbing. In practical terms the functional effect of an illness and its therapy upon a patient, as perceived by the patient - could be estimated by introducing the quantitative approach of - Health Related Quality of Life (HRQoL).

Aim: The aim of this study is to evaluate the impact of obesity on quality of life of patients with ischemic heart disease.

Design and method: Questionnaire based cross sectional study was conducted among patients with established Coronary Artery Disease admitted in the Department of Cardiology in the University Hospital. 520 patients who were admitted in the Cardiology Department between 1st of January 2012 and 30th June 2014 with acute coronary syndrome or coronary angiographic or Electrocardiography evidence of ischemic heart disease were included in the study, stratified by age, sex and BMI (normal weight 18.5 - 24.9, overweight 25 - 29.9, obese 30 and above). EuroQol - 5D (EQ-5D) was administered in the patients during their hospital stay. EQ-5D comprises 5 dimensions: mobility, self-care, usual activities, pain/discomfort and anxiety-depression. Each dimension has 5 levels: no problems, slight problems, moderate problems, severe problems and extreme problems. The height, weight and basic laboratory parameters were recorded.

Results: Mean age of the participants was 65.1± 10.6 years. Male female ratio was 0.76. The distribution of patients in BMI groups was 36.8%/ 24.4%/ 38.8%. Statistically significant differences between BMI groups were seen in Usual activity (p=0.005) and self-care (p=0.044) dimensions of EQ-5D-5L with poorest outcome in the obese. We have found significantly positive correlation between BMI and usual activities (R=0.234, p=0.001) and between age and anxiety (R= 0.366 p=0.045). Mean BMI of patients with extreme problems with extreme problems with usual activities is significantly greater than those with lower intensity of problems. Patients with extreme anxiety tend to have higher mean age.

Conclusion: Our study revealed that Ischemic heart disease patients with obesity had impaired QoL in terms of health, mobility, usual activity, discomfort and anxiety. Hence non-obese ischemic heart disease patients had a better sense of overall wellbeing.

Key Words:

- [Coronary artery disease](#)
- [Obesity](#)
- [Quality of life](#)

Results: This study showed the predominance of women aged between 50 and 60 years with incomplete primary education and hypertension diagnosis time of more than 10 years. At the time of data collection, 218 (54.9 %) people in the state of Minas Gerais had normal blood pressure and 158 (43.8%) people in the state of São Paulo. It was found that drug treatment occurs predominantly in combination with the class of thiazide diuretics associated with angiotensin II antagonists. The study shows that 253 (63.7 %) people with hypertension enrolled in the Family Healthcare Units consume more than one drug per day in the last week in Minas Gerais and 201 (55.8 %) in São Paulo.

Conclusions: The data presented supports the conclusion that the antihypertensive prescriptions for the sample are consistent with the recommended guidelines from the primary care documents of the Ministry of Health, since the antihypertensives consumed by users of the public health system are in a combination recognized as effective.

PP.07.08 EFFECTS OF METOPROLOL AND NEBIVOLOL ON EXERCISE BLOOD PRESSURE IN PATIENTS WITH MILD HYPERTENSION

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Objective: Development of exaggerated blood pressure response to exercise is shown to be associated with increased cardiovascular morbidity and mortality. We planned to compare the impact of two beta blockers, metoprolol and nebivolol, on arterial blood pressure during exercise in patients with mild hypertension.

Design and method: A total of 60 patients (13 males, 47 females; mean age: 54.3 ± 10.7 years) were enrolled in the present study. The patients were randomly selected to receive either nebivolol 5 mg/day ($n=30$) or metoprolol 50 mg/day ($n=30$) for 8 weeks. At the end of the 8th week, each of the patients received exercise stress test according to Bruce protocol and their blood pressures were remeasured after rest, exercise, and recovery.

Results: Blood pressures were determined to be similar between metoprolol and nebivolol groups during rest, exercise, and recovery periods. Metoprolol and nebivolol achieved similar reductions in blood pressures during rest and exercise. However, five patients in nebivolol group and four patients in metoprolol group developed exaggerated BP response to exercise but the difference between metoprolol and nebivolol was not meaningful ($P=0.37$).

Conclusions: The results of the present study showed that metoprolol and nebivolol established comparable effects on the control of blood pressures during exercise in the patients with mild hypertension. Both metoprolol and nebivolol can reduce cardiovascular risk via reducing exaggerated BP response to exercise in hypertensive patients.

PP.07.09 EFFECT OF SINGLE TABLET OF FIXED-DOSE AMLODIPINE AND ATORVASTATIN ON BLOOD PRESSURE AND LIPID PROFILE IN YOUNG PATIENTS

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Objective: Hypertension and dyslipidemia are two of the most commonly co-occurring cardiovascular risk factors which together cause an increase in coronary heart disease-related events that is more than simply additive for anticipated event rates with each condition. Data have shown that even relatively small reductions in both blood pressure and cholesterol levels can lead to large reductions in the risk for cardiovascular events. Furthermore, it is very important to treat young patients adequately in order to prevent cardiovascular complications. The objective of this study was to investigate the effects of a single pill of amlodipine (5 mg)/atorvastatin (10 mg) on blood pressure and lipid profile and adherence to medication in young hypertensive patients with dyslipidemia and no history of ischaemic heart disease.

Design and method: This combination tablet was administered to 59 patients (36 males) with mean age 47 ± 2.4 years, and blood pressure, lipid profile, renal/liver function were measured at baseline, 1, and 3 months. Medication adherence was examined using a questionnaire at 3 months.

Results: LDL-Cholesterol, triglycerides and total cholesterol were significantly decreased at 1 and 3 months compared with baseline. Data shows that mean baseline office BP of 164/98 mmHg reduced by 19/9 mmHg to 145/90 mmHg at 1 month, and to 139/88 at 3 months. Mean systolic pressure decreased significantly at 1 and 3 months. The results of the questionnaire showed that 94 % of patients were satisfied with this medication. No severe adverse events were observed.

Conclusions: This combination tablet controlled both hypertension and dyslipidemia well in young patients. The control of two of the major cardiovascular risk factors might suggest the prevention of atherosclerosis by this medication. In addition, this medication is expected to improve medication adherence which is a very important prerequisite for successful treatment and prevention especially in young patients.

PP.07.10 THE EFFECT OF STATINS IN ERECTILE DYSFUNCTION

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Objective: The term erectile dysfunction (ED), which replaced the emotive word 'impotence,' is the inability to start and maintain an erection sufficient to achieve sexual intercourse. The etiology of this condition is multifactorial but it is usually attributed to vascular lesions caused by endothelial dysfunction. Many recent studies have attempted to link the growing incidence of erectile dysfunction with other causes, especially in patients suffering from cardiovascular diseases. This study aims to investigate the relationship of erectile dysfunction with dyslipidemia and the possible impact of statins on erectile dysfunction (not receiving phosphodiesterase inhibitors).

Table 1	STATINS	CONTROL GROUP
Before treatment	11.4*	10.8*
After treatment	16.3*	11.2*

* Mean (average) score IIEF (International Index of Erectile Dysfunction)

- $p < 0.05$

Design and method: The study included 100 male patients (aged 40–70 years) with unique risk factor dyslipidemia (none of them was receiving lipid-lowering treatment) and erectile dysfunction. The diagnosis of erectile dysfunction and its extent were assessed using the international questionnaire erectile function (IIEF). The lowest prices of the international questionnaire indicate significant erectile dysfunction. Total cholesterol (CHOL), low (LDL) and high (HDL) density lipoproteins and triglycerides (TRG) were assessed in all participants. The study group was divided in two subgroups each consisting of 50 patients. In the first subgroup patients received a statin (atorvastatin) while the second subgroup received no treatment (control group). All the participants were reexamined using the same processes (completion questionnaire IIEF-determination in blood levels of CHOL, LDL, HDL, TRG) after three months.

Results: In the subgroup of patients receiving statins the IIEF score emerged a statistically significant increase after three months of treatment (16.3 from 11.4 prior treatment, $P < 0.05$) compared to the control group reflecting an important improvement in erectile dysfunction (Table 1).

Conclusions: Patients receiving lipid-lowering therapy for 3 months significantly improved both lipid profiles and erectile dysfunction compared to the control group. Therefore men using statins to improve their cholesterol levels may emerge a significant improvement in erectile function. Although statins are not recommended as primary treatment for erectile dysfunction in men with normal cholesterol levels, this effect could improve compliance in hypercholesterolemic patients treated with statins.

PP.07.11 IGNORED AND NEGLECTED CAUSE OF ACUTE LEFT HEART FAILURE. PHOSPHORUS DEFICIENCY IN MASSRY'S PHOSPHATE DEPLETION SYNDROME. GIVING I.V. OR ORAL PHOSPHATE MIGHT SAVE THE LIVES

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Objective: In this study we investigated serum phosphorus levels in patients with acute left heart failure.

Design and method: A total of 215 participants, 115 patients with acute left heart failure and 100 controls, were enrolled in the study. Patients applied to emergency room with the complaints of heart failure were assessed by echocardiography. Ejection fraction (EF) levels lower than 50% were accepted as heart failure. Patients with renal disorders, hyperparathyroidism, chronic heart failure, alcoholism, intake of medications that alter phosphorus level were excluded. Mean phosphorus levels of each group were measured and compared each other. SPSS 12.0 package program (SPSS Inc., Chicago, Illinois) was used for statistical analysis. Chi square test was used to compare categorical measures between the groups. Mann Whitney U or T test was used for comparison of numerical measurements between the two groups. Level of statistical significance was considered as 0.05 in all tests.

Results: There were 148 (69%) women and 67 (31%) men in the present study. The mean age was 52.6 ± 12.1 years. Demographic characteristics of participants were not significantly different between the groups. Mean EF levels of groups were 40.8 ± 6.3 in phosphate depleted group and 60.0 ± 9.7 in controls, respectively. The difference between two groups was statistically significant

Clinical experience with combination therapy with Olmesartan and Amlodipine in treatment of resistant hypertension

Authors:

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Topic(s):

Hypertension

Citation:

Objective: The objective of this study is to analyse the effect of fixed dose combination therapy with Olmesartan/Amlodipine in the treatment of Resistant Hypertension.

Design: Questionnaire based cross sectional study among patients with Resistant Hypertension defined according to the ESC guideline for Management of Arterial Hypertension.

Method: The study was carried out among 128 patients admitted with history and 24 hour holter blood pressure monitor evidence for Resistant Hypertension in the Department of Cardiology between 1 st July 2012 and 31 st July 2014. Patients with history of Resistant Hypertension were screened with 24 hour holter blood pressure monitoring and those who fulfilled the criteria for Resistant Hypertension according to the ESC guideline for Management of Arterial Hypertension based on the treatment history and 24 hour holter blood pressure monitoring were included in the study after obtaining informed consent. Patients included in the study were started on therapy with Olmesartan/Amlodipine at fixed dose combination along with diuretic and Beta-Blocker. Patients were continued on this fixed dose combination therapy for 3 months. After the 3 month period patients were reassessed with control holter blood pressure monitoring to access the efficacy of the treatment and the circadian control of arterial blood pressure.

Result : From the study it was observed that 90 patients (70.31%) had reached optimal control of arterial blood pressure by the fixed dose combination therapy with Olmesartan/Amlodipine. 20 patients (15.64%) had non optimal control of arterial blood pressure and 12 patients (9.37%) continued to be with resistant hypertension in spite of the maximal dosage of the fixed dose combination therapy with Olmesartan/ Amlodipine. 6 patients (4.68%) discontinued the treatment due to pedal edema. We observed from the screening holter blood pressure monitoring that 38 patients (29.68%) with resistant hypertension were non-dippers and after the fixed dose combination therapy with Olmesartan/Amlodipine only 14 patients (10.93%) were non-dippers.

Conclusion: The study revealed that fixed dose combination therapy with Olmesartan/Amlodipine in patients with Resistant Hypertension has high efficacy and minimal side effects with good circadian control of arterial blood pressure.

Abstract: P145

Incidence of diabetes mellitus among patients with ischemic heart disease : a comparative analysis between indian and bulgarian patients

Authors:

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Topic(s):

Diabetes

Citation:

Objective: The objective of this study was to analyse and compare the incidence of Diabetes Mellitus among patients with ischemic heart disease in Bulgaria and India. **Design:** Cross-sectional study among patients with established Coronary Artery Disease admitted in the Department of Cardiology. **Methods:** Study was carried out in the patients admitted with Ischemic Heart disease in the Cardiology Departments in the respective hospitals in Bulgaria and India. 496 patients who were admitted in the Cardiology Department in the hospital in India between 1st June 2012 and 31st Dec 2012 and 476 patients who were admitted in the Cardiology Department in Bulgaria between 1st of January 2012 and 31st Dec 2013 with acute coronary syndrome or coronary angiographic or Electrocardiography evidence of ischemic heart disease were included in the study. Patients were analysed for incidence of Diabetes Mellitus and Impaired Glucose tolerance. Data collected from the patients, old medical records, Clinical Examination and Laboratory results including HbA1c, Fasting and Post-prandial blood sugar values and treatment history for Diabetes Mellitus were analyzed for the study. **Results:** From the study, it was seen that the incidence of Diabetes Mellitus is 57% among Indian patients with Ischemic Heart Disease, whereas 34% of Bulgarian patients are with Diabetes Mellitus ($p > 0.01$). The Incidence of Impaired Glucose Tolerance among the Indian patients is 21% and among the Bulgarian patients is 19% (p value < 0.01). **Conclusion:** There is statistically significant difference in the incidence of Diabetes Mellitus among patients with Ischemic Heart Disease in Indian and Bulgaria, but in the Incidence of Impaired Glucose Tolerance there is no statistically significant difference between the two populations. The prevalence and incidence of CAD along with the risk factor profile vary greatly across the regions of the world. Early detection Diabetes Mellitus and control of glycaemic status by drugs and dietary modifications in case of impaired Glucose tolerance play a significant role in the prevention of CAD in both populations. A cost-effective preventive strategy will need to focus on reducing risk factors both in the individual and in the population at large.

P145

Incidence of diabetes mellitus among patients with ischemic heart disease : a comparative analysis between Indian and Bulgarian patientsC Cyril James¹, S Tisheva¹, D Yakova¹, M Hristov¹, K Gospodinov¹, N Stancheva¹, S Ohri¹, T Attacheril², S Jose³¹Medical University Plovdiv, Plovdiv, Bulgaria, ²Lourde Heart Institute and Neuro Sciences, Kochi, India, ³MOSC Medical College, Kolencherry, India**Topic: Diabetes****Objective:** The objective of this study was to analyse and compare the incidence of Diabetes Mellitus among patients with ischemic heart disease in Bulgaria and India. **Design:** Cross-sectional study among patients with established Coronary Artery Disease admitted in the Department of Cardiology.**Methods:** Study was carried out in the patients admitted with Ischemic Heart disease in the Cardiology Departments in the respective hospitals in Bulgaria and India. 496 patients who were admitted in the Cardiology Department in the hospital in India between 1st June 2012 and 31st Dec 2012 and 476 patients who were admitted in the Cardiology Department in Bulgaria between 1st of January 2012 and 31st Dec 2013 with acute coronary syndrome or coronary angiographic or Electrocardiography evidence of ischemic heart disease were included in the study. Patients were analysed for incidence of Diabetes Mellitus and Impaired Glucose tolerance. Data collected from the patients, old medical records, Clinical Examination and Laboratory results including HbA1c, Fasting and Post-prandial blood sugar values and treatment history for Diabetes Mellitus were analyzed for the study.**Results:** From the study, it was seen that the incidence of Diabetes Mellitus is 57% among Indian patients with Ischemic Heart Disease, whereas 34% of Bulgarian patients are with Diabetes Mellitus ($p > 0.01$). The Incidence of Impaired Glucose Tolerance among the Indian patients is 21% and among the Bulgarian patients is 19% (p value < 0.01).**Conclusion:** There is statistically significant difference in the incidence of Diabetes Mellitus among patients with Ischemic Heart Disease in Indian and Bulgaria, but in the Incidence of Impaired Glucose Tolerance there is no statistically significant difference between the two populations. The prevalence and incidence of CAD along with the risk factor profile vary greatly across the regions of the world. Early detection Diabetes Mellitus and control of glycaemic status by drugs and dietary modifications in case of impaired Glucose tolerance play a significant role in the prevention of CAD in both populations. A cost-effective preventive strategy will need to focus on reducing risk factors both in the individual and in the population at large.

P298

Effect of changes in circadian rhythm on mortality in elderly hypertensive patients

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Topic: Hypertension

oxLDL only in hsCRP <2.0mg/L and LDL-c <120.0mg/dL subgroups.

Conclusions: Our data seems to 1) support the protective role of L-HDL particles against LDL-mediated modifications by oxidative mechanisms, in contrast with S-HDL; 2) the concomitant presence of inflammation and (hyper)glycemia effectively attenuate such associations; and 3) LDL-c concentrations above the cut-off point can abolish/blunt the associations between L- and S-HDL molecular subfractions and oxLDL, which deserves further detailed analysis.

P303

Mechanistic approach on endothelial lipase phosphatidylcholine-fatty acid specificity/interactions: from human-to-computational studies

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Topic: Lipids

Purpose: Changes in fatty acids profile and their ratios were common features observed in the Met Synd, obesity, diabetes or CVD, and associated with clinical outcomes. We recently reported that endothelial lipase (EL) mass positively associated with EPA/AA ratio in human Red Blood Cells (RBCs) membrane's EL, a head-to-tail homodimer with a catalytic triad constituted for Ser-His-Asp, is essentially a PLA1 but also presents lysophospholipase (LysOPLA1) activity, if acyl migration takes place, towards mainly HDL. The current data extent and complement previous observation, by using computational models.

Methods: Computational DFT methods were used to analyse the structure and electronic properties of several non-zwitterionic 16:0-sn2-PC molecular species. The global minimum configurations were used for the final optimization study.

Results: Endothelial lipase showed a positive trend with 18:1(n-7 + n-9) and 20:5n-3 (EPA) and negative with 18:2n-6 and 20:4n-6 (AA), and weak associations with 22:5n-3 (DPA) and 22:6n-3 (DHA), in RBCs. Geometric optimization B3LYP/6-31G(d,p) data indicate for 16:0-DPA-PC and 16:0-DHA-PC the lowest energy as isolated molecules, and both PC species showed the lowest and the highest Cδ-Cδ distances, 21.02 Å and 30.81 Å, respectively. No significant differences were observed between 16:0-18:1n-9-PC and 16:0-AA-PC in case of Cδ-Cδ distances. However, the latter showed the lowest C=O(m1)-C=O(m2) and Cα-Cα distances and the former the highest one. Interestingly, in 16:0-EPA-PC the distances between N-choline and the carbon atoms in glycerol backbone are significantly lower 6.53 Å, 5.59 Å and 5.37 Å, for CG1, CG2 and CG3, compared with others PC molecular species and mainly with 16:0-AA-PC (8.62 Å, 7.25 Å and 6.36 Å, respectively). The CG1 on glycerol backbone for 16:0-AA-PC showed the lowest partial Mulliken charge (+0.038 a.u.) compared with other sn2-PC molecular species (e.g. +0.065 a.u. for EPA).

Conclusions: The lower distances between nitrogen and the carbon in sn1 of glycerol backbone can interfere with ester bond in this position and changes the specificity and/or the steric hindrance for catalytic triad of EL. The differences in acyl chain region can influence the packing properties of PC molecular species in monolayers/bilayers, and also EL activity. The present results put forward the role of EL as PLA1 and LysOPLA1, and some of the differences found here can also influence the levels and/or the speed of acyl migration, and the resulting hydrolytic products of EL.

P304

Obesity and body mass index in acute coronary syndrome: evaluation of the outcomes during hospitalization and at one-year follow-up

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Topic: Obesity

Purpose: It is a known fact that obesity, as an individual component of the Metabolic Syndrome, is closely related to cardiovascular disease. However, it seems that obese patients with acute coronary syndrome tend to have better short-term outcomes, often referred to as the "obesity paradox".

In this study the authors compare mortality rates during hospital stay and at one year follow-up in obese and non-obese patients. Furthermore, body mass index (BMI) values are compared between the deceased and surviving populations.

Methods: In a retrospective study of patients admitted to the Cardiology Department of a centralized hospital for acute coronary syndrome, the authors analyze the BMI and clinical outcome during hospitalization and one year after discharge. It was considered obesity when BMI was superior to 30 kg/m². Statistical analysis was made using SPSS v17.

Results: The study population consists of 1121 patients, 68.9% male, age 69.12±12.67 years old, of which 215 (19.1%) were obese. Patients were divided into 2 groups, the Obese group – group A (70.2% male, age 64.68±12.87 years old) and the Non-obese group – group B (68.6% male, 70.16±12.41 years old), with no statistical differences in sex (p=0.643) or age (p=0.365). No statistical significance was observed when comparing mortality between group A and group B during hospitalization (11.2% vs 7.4%; p=0.069) and at one-year follow-up (2.3% vs 5.3%; p=0.100).

When comparing BMI values based on outcome during hospitalization, the group of deceased patients vs surviving patients showed the following values: 27.05±4.50 kg/m² vs 27.31±4.10 kg/m² (p=0.562). However, a statistical difference was observed when comparing BMI values after one-year follow-up, the results were 25.48±2.47 kg/m² vs 27.37±4.18 kg/m² (p=0.015).

Conclusions: The study of this population showed no significant differences in outcome between obese and non-obese patients, thus not in accordance with the "obesity paradox". However, when comparing BMI, although no difference was found during hospitalization,

lipoprotein (LDL), high density lipoprotein (HDL), triglyceride, HbA1c, systolic and diastolic pressure, history of hypertension, type 2 diabetes mellitus, dialipidemia, nicotine abuse and anamnestic family data of coronary disease history, stroke, type 2 diabetes and sudden cardiac death (SCD) was evaluated with respect to the Lp (a) levels.

Results: In the first group of 208 employees with Lp (a) <60 mg/dl (mean age 44 ± 10 years,

there was a significantly higher BMI in the surviving patients after the one-year follow-up. This corroborates findings in several studies in which it is acknowledged that overweight patients with coronary disease have a lower risk of cardiovascular and total mortality than patients in the low and normal weight groups.

P305

Analysis of the prevalence of metabolic syndrome in patients with atrial fibrillation in the region of Pleven, Bulgaria

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Topic: Obesity

Aims: To analyse the prevalence of metabolic syndrome (MS) in patients with Atrial fibrillation (AF).

Methods and Materials: The study was conducted among 115 patients admitted to First Clinic of Cardiology, University Hospital - Pleven, Bulgaria between the 1st of April to the 1st of October 2014 with documented evidence of Atrial Fibrillation. Patients were examined for the prevalence of arterial hypertension, diabetes, dyslipidaemia and obesity. Data from current and previous medical records, together with a 24-hour ECG record, was analysed. We examined the pre and postprandial blood glucose levels, lipid profile, waist circumference, treatment of arterial hypertension and dyslipidaemia. Patients were classified with MS according NCEP ATP III criteria. We searched for the relation between the components of Metabolic Syndrome and incidence of atrial fibrillation.

Results: From the studied population with Atrial Fibrillation 54 patients were diagnosed with Metabolic Syndrome, of which 26 are men and 28 women. Of the patients with Metabolic syndrome and atrial fibrillation 24 patients are with paroxysmal atrial fibrillation and 30 are having chronic atrial fibrillation. 79 patients are with waist circumference above the upper limit, 42 of which are men and 37 women. 104 patients have arterial hypertension and atrial fibrillation of which 60 are male and 44 are female.

Conclusion: Metabolic Syndrome is widely spread among patients with atrial fibrillation in the studied population. A tight correlation between any of the components of the metabolic syndrome and the atrial fibrillation was found. This correlation is caused not only by the effects of the separate components, but also because of their additive mechanism of the components of Metabolic Syndrome. We observed strong correlation between the number of components of Metabolic Syndrome with the incidence of Atrial Fibrillation.

Analysis of the prevalence of metabolic syndrome in patients with atrial fibrillation in the region of Pleven, Bulgaria

Authors:

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Topic(s):

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six months follow up. The statistical analyzes were performed using Wilcoxon signed rank test.

Results: Seventy four severe obese patients (61F/13M) with median age 39 (18–64) years old and median preoperative body mass index (BMI) 45.0 (34.6–60.1) kg/m² were included. The mean preoperative weight loss was 9.1±6.42 kg and six months postoperative weight loss was 25.7±11.36 kg. We found a significant correlation between preoperative and postoperative weight loss ($r=0.3$; $p<0.001$).

Conclusion: There is a positive correlation between preoperative weight reduction and postoperative weight loss after bariatric surgery.

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Disclosure of Interest: None Declared

PP236-SUN

EVALUATION OF THE PARAMETERS OF THE EURO QOL-5D QUESTIONNAIRE UNDER NORMAL CLINICAL PRACTICE CONDITIONS ON HYPERTENSIVE PATIENTS WITH NORMAL AND ELEVATED BMI

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Rationale: The epidemic of obesity and obesity-related hypertension is an important public health challenge, increasing worldwide and paralleled by growing incidence of metabolic syndrome. The aim of the study is to evaluate the impact of obesity on the quality of life of hypertensive patients.

Methods: This randomized questionnaire based cross-sectional study was conducted in the Cardiology Clinic, University Hospital. 123 patients with hypertension, stratified by age, sex and BMI (normal weight 18.5–24.9; overweight 25–29.9, obese 30–35) were chosen at random.

Inclusion Criteria: Patients with diagnosis of essential hypertension on regular medication for at least the last 6 months. Administration of the EuroQol-5D (EQ-5D) at the time of admission of the patient. EQ-5D comprises 5 dimensions: mobility, self-care, usual activities, pain/discomfort and anxiety/depression. Each dimension has 5 levels: no problems, slight problems, moderate problems, severe problems, and extreme problems. The height, weight, smoking/nonsmoking status and standard laboratory parameters were recorded.

Results: Mean age of the participants was 60.3±8.1 years. Male/female ratio was 0.67, smoker/nonsmoker 0.26. The distribution of the patients in BMI groups was 20%/51%/29%. Mean score of mobility ($P=0.034$), anxiety/depression ($P=0.041$) and quality of life ($P=0.031$) was significantly worse in the group of obese hypertensives, whereas pain/discomfort ($P=0.074$), self-care ($P=0.126$) was non-significantly worse.

In the group with overweight hypertensive patients the mean score of the parameters was worse, but nonsignificantly.

Conclusion: Our findings showed that individuals with obesity and hypertension had impaired QoL in terms of health, mobility, usual activity, discomfort, and anxiety. Hence, non-obese hypertensives had a better sense of overall well-being.

Disclosure of Interest: None Declared

Paediatrics

PP237-SUN

Outstanding abstract

THE IMPACT OF NUTRITION AND BODY WEIGHT ON INTESTINAL ABSORPTION AND ENDOGENOUS SYNTHESIS OF CHOLESTEROL IN CHILDREN

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Rationale: In obese subjects, elevated serum cholesterol is one of the major factors leading to cardiovascular complications and is already present in children. Intestinal cholesterol absorption is supposed to be in equilibrium with endogenous synthesis. However in adult obese individuals, there is some evidence that this homeostasis can be impaired.

Methods: To assess the proportion of cholesterol absorption and synthesis, non-cholesterol sterols were measured by liquid chromatography-tandem mass spectrometry. The cohort consists of 195 children (88 girls, 107 boys, aged 5 to 19 years) including 165 lean and 28 overweight and obese children and BMI-SDS ranged from -3.7 to 2.9. Dietary intake was evaluated by a food diary for 4 days.

Results: Cholesterol serum concentration did not differ significantly between obese and lean children. For BMI-SDS a positive correlation was found with cholesterol synthesis ($r=0.24$; $p=0.001$), whereas cholesterol absorption showed an inverse correlation with BMI-SDS ($r=-0.38$; $p<0.001$). Lean children showed significantly higher fruit (209.7 g/day±180.1 vs. 111.07 g/day±84.6; $p=0.010$) and carbohydrate intake (260.8 g/day±76.5 vs. 217.6 g/day±54.1; $p=0.009$), otherwise no differences for nutrients and cholesterol intake were found. In the entire cohort, for markers of cholesterol synthesis a significantly positive correlation with fish intake was observed ($r=0.20$; $p=0.015$), whereas carbohydrate intake was significantly positive correlated with markers of cholesterol absorption ($r=0.17$; $p=0.037$).

Conclusion: Despite equal cholesterol serum levels, the relationship of cholesterol absorption and synthesis is supposed to be modified with higher body mass already in children. Dietary intake showed only weak associations with surrogate markers of cholesterol absorption and synthesis.

Disclosure of Interest: None Declared

Abstract: 629

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N-terminal pro brain natriuretic peptide and tumor necrosis factor alpha and outcome in patients with heart failure with reduced vs. preserved systolic function

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Background: Elevated plasma concentrations of NTproBNP and TNF-alpha are predictive of worse outcome in heart failure (HF) with reduced systolic function but there are few data about their predictive value in patients with preserved systolic function. The aim of this study was to determine the prognostic value of predischage NT-proBNP and TNF-alpha in patients with reduced vs. preserved systolic function admitted for decompensated congestive HF.

Methods: One hundred and twenty-seven patients were evaluated at the time of discharge by means of echocardiography, conventional laboratory tests and plasma for NTproBNP and TNF-alpha levels. The primary endpoints of the study were defined as readmission for HF during the first 6 months after discharge, more than 2 hospitalisations for 1 year, or cardiac death.

Results: One hundred and twenty-one patients (95.3%) were followed for mean of 387 ± 117 days. In the subgroup of patients with preserved systolic function (n=67, 55.4%) eighteen (26.9%) have reached at least one of the primary endpoints while in the subgroup of patients with reduced systolic function (n=54, 44.6%) thirty-six patients (66.7%) have had an event ($t=4.738$, $p<0.001$). Predischage NTproBNP levels were significantly higher in the reduced systolic function group (Kruskal-Wallis test=21.61, $p<0.00001$) while there was no difference in the TNF-alpha levels (Kruskal-Wallis test=0.225, $p=0.63$). Using univariate analysis left ventricular ejection fraction (LVEF), NYHA functional class and NT-proBNP levels were independent predictors of outcome in both groups. NTpro-BNP proved to be an independent predictor of outcome in multivariate analysis as well while TNF-alpha proved to be a predictor of outcome neither in univariate nor in multivariate analysis. Kaplan-Meier survival curves showed a steep initial slope suggesting that the higher the NTproBNP level the worse the short-term prognosis in the three groups of patients divided by the NTproBNP concentration according to the nonparametric percentile method, NTproBNP > 800 pg/ml was associated with significantly worse outcome. This was not confirmed for TNF-alpha.

Conclusions: Although NTproBNP is significantly higher in patients with reduced systolic function high predischage NTproBNP levels are associated with poor prognosis in HF patients irrespective of systolic function.

Conclusions: Total score baseline SBP and β -AR helps determine the effectiveness of RSD in order to reduce BP. The method needs further study.

PP.26.16 CAN AN HOSPITAL ADMISSION MODIFY THE COURSE OF PATIENTS WITH RESISTANT HYPERTENSION?

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Objective: Albeit the unfold of recent discoveries regarding non-drug therapeutic approaches to resistant hypertension (RH), such as catheter-based renal denervation, its role is getting more boldly defined. The correct diagnosis of true RH remains the foundation towards proper patient selection and palpable benefits. The aim of this study was to evaluate the value of a short hospital admission to accurately identify eligible patients to RD.

Design and method: It was carried out a retrospective descriptive cross-sectional study, encompassing RH patients followed in ambulatory regimen, who were hospitalized between January 2009 and December 2014 and actively engaged in a restrict dietary and pharmacological plan.

Results: A total of 14 patients and 15 admissions were identified. The average age was 62 years old and 60% were women. The average duration of hospitalisation was 3 days and two RH cases were due to a secondary cause. The patients were using an average of 6 antihypertensives agents (including diuretic), prevailing the central action and calcium channel blockers.

All patients had uncontrolled BP in ABPM prior to hospitalisation (24 h BP average was 158/ 108/ 85 mmHg for systolic/ mean/ diastolic, respectively, with 88% hypertensive load). Average cardiac frequency was 71 bpm, pulse pressure was 75 mmHg, and only 20% had a dipper pattern. With the hospital admission, all patients have improved BP values (average pressure at discharge of 135/74 mmHg) and with fewer medication (median of five agents). All patients kept follow-up (median of 4 months after discharge), with an average BP of 160/ 79 mmHg. One patient had a cardiovascular major event (stroke) after hospitalisation.

Conclusions: All cases in this study were pseudoRH, with two patients (14%) having a secondary cause identified. The remaining cases were probably consequence of adhesion failure to medication and healthy life habits on an daily basis. These results stress the importance of correct RH recognition in a controlled environment in order to avoid false indications for non pharmacological solutions such as RD.

PP.26.17 OUR CLINICAL EXPERIENCE WITH COMBINATION THERAPY OF OLMISARTAN AND AMLODIPINE IN THE TREATMENT OF RESISTANT HYPERTENSION

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Objective: The objective of this study is to analyse the effect and side-effects of combination therapy of Olmesartan/Amlodipine in the treatment of Resistant Hypertension.

Design and method: Questionnaire based cross sectional study among patients with Resistant Hypertension according to the 2013 ESC Guideline for management of Hypertension.

Study was carried out in 64 patients admitted with history and holter blood pressure monitor evidence of Resistant Hypertension in the Cardiology Department between 1 st of July 2013 and 31 st of July 2014. Patients who fulfilled the inclusion criteria by the initial holter blood pressure monitor were started on combination therapy with Olmesartan/Amlodipine along with diuretic and Beta-blocker. Patients were analysed with control questionnaire and holter blood pressure monitor after 3 months for the effect and side-effects and the circadian rythm of blood pressure control.

Results: From the study it was seen that 45 (70.31%) of the patients included in the study had reached optimal control of blood pressure. 10 patients (15.64%) had non optimal control of blood pressure, 3 patients (4.68%) stopped the treatment due to pedal oedema. 6 patients (9.37%) patients continued to be with resistant hypertension inspite of our maximal therapy. From the initial holter blood pressure monitoring it was observed that 19 patients (30%) included in the study were non-dippers and after the therapy with Olmesartan/Amlodipine combination it was found that only 7 patients (10.93%) were non-dippers.

Conclusions: From our study we observed that the combination therapy with Olmesartan/Amlodipine in patients with Resistant Hypertension has high efficacy and minimal side-effects with good circadian control of Hypertension.

PP.26.18 LONG-TERM VASCULAR SAFETY OF RENAL SYMPATHETIC DENERVATION ASSESSED BY MR IMAGING

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Objective: Renal denervation (RDN) emerged as a treatment option for reducing blood pressure (BP) in patients with treatment resistant hypertension (TRH). However, concerns have been raised regarding the long-term vascular safety after RDN. The goal of the current study was, therefore, to conduct a prospective clinical trial on the long-term vascular integrity of the renal arteries and the perfusion of the renal parenchyma assessed by magnetic resonance imaging (MRI) as well as the renal function in the long-term follow up after catheter-based RDN.

Design and method: In our single-center investigator initiated study, 51 patients with true TRH (office systolic BP \geq 140/90 mmHg and 24-h ambulatory BP monitoring \geq 130/80 mmHg; at least 3 antihypertensive drugs at maximum tolerated dose including one diuretic agent) underwent catheter-based RDN using the Symplicity FlexTM catheter (Medtronic Inc., Palo Alto, CA). Follow-up MRI was performed at a median of 11 months (interquartile range 6 – 18 months) after RDN on a 1.5T MR unit (Magnetom Avanto, Siemens Medical Solutions, Erlangen, Germany). High-resolution MR angiography (MRA) and MRI results were compared to the baseline digital angiographic imaging of renal arteries obtained at time of RDN. In case of uncertainties (N = 2) catheter angiography was repeated.

Results: Both office and 24-h ambulatory BP were significantly reduced 6 and 12 months after RDN all ($p < 0.001$). Renal function remained unchanged 6 and 12 months after RDN. In all patients MRA excluded new or progression of pre-existing low grade renal artery stenosis as well as focal aneurysms at the sites of radiofrequency ablation. In none of the patients new segmental perfusion deficits in either kidney were detected on MRI.

Conclusions: No vascular or parenchymal complications after radiofrequency based RDN were detected in 51 patients followed up by MR imaging.

PP.26.19 EFFECTS OF RENAL DENERVATION ON BLOOD PRESSURE BURDEN IN AMBULATORY BLOOD PRESSURE MEASUREMENTS IN PATIENTS WITH RESISTANT ARTERIAL HYPERTENSION IN A LONG TERM FOLLOW UP

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Objective: Catheter based ablation of nerves around renal arteries (renal denervation, RDN) by the use of radiofrequency energy can reduce blood pressure (BP) in patients with resistant arterial hypertension (RAH). Ambulatory blood pressure measurements (ABPM) provide a full BP profile by a high number of readings, resulting in a high reproducibility of BP levels. We systematically investigated the effect of RDN on the BP burden in ABPM in a consecutive series of patients 12 months after RDN.

Design and method: Patients suffering from RAH were treated by RDN after exclusion of secondary causes of hypertension. RAH was defined by a mean systolic office BP \geq 160mmHg. ABPM for 24-hours was performed 3, 6 and 12 months after RDN. Patients were classified as responders, if the 24-hour average systolic blood pressure dropped by more than 5 mmHg after 6 months. BP-burden was defined as the proportion of systolic/diastolic blood pressure values of more than 135/85 mmHg during daytime and of more than 120/70 mmHg during nighttime.

Results: RDN was performed in 186 patients, responder classification was available in 103 patients and the responder rate was 46% after 6 months. The mean 24-hour BP reduction in responders was -17.2 ± 15.9 mmHg systolic (95% CI -12.2 ; -22.3 , $p < 0.01$) and -9.0 ± 11.6 mmHg diastolic (95% CI -5.4 ; -12.7 , $p < 0.01$) after 12 months ($n = 41$). In responders, systolic/diastolic BP-burden decreased from median 76/57% to 30/25% during daytime and from median 100/63% to 44/25% during nighttime at 6 months ($p < 0.01$ for all comparisons). BP burden remained at 39/27% during daytime and at 57/20% during nighttime ($p < 0.01$ for all vs. baseline) after 12 months.

Conclusions: In responders to RDN we found a significant and sustained reduction of systolic and diastolic BP burden in ABPM out to 12 months.

Results: Values of diastolic blood pressure were significantly different between patients with MVA and all patients with CAD, with higher values in patients with CAD (81.40 ± 10.83 versus 84.84 ± 12.53 ; $p=0.030$). When comparing values of diastolic blood pressure between the groups (MVA vs. stable angina, unstable angina, NSTEMI and STEMI), significantly higher values were noticed between patients with MVA and patients with NSTEMI (81.40 ± 10.83 versus 85.47 ± 11.40 ; $p=0.027$) and patients with MVA and patients with STEMI (81.40 ± 10.83 versus 90.51 ± 15.98 ; $p<0.001$), while there was no significant difference between patients with MVA and stable angina (81.40 ± 10.83 versus 82.20 ± 10.21 ; $p=0.642$) and patients with MVA and unstable angina (81.40 ± 10.83 versus 81.20 ± 9.58 ; $p=0.905$).

Conclusions: Values of diastolic blood pressure were significantly different between patients with MVA and CAD, more precisely between patients with MVA and patients with NSTEMI and STEMI, while the significance was not present between patients with MVA and stable and unstable angina pectoris.

PP.01.36

EVALUATION OF THE PARAMETERS OF THE EURO QOL- 5D QUESTIONNAIRE AMONG PATIENTS WITH ISCHEMIC HEART DISEASE WITH NORMAL AND ELEVATED BMI

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Objective: Obesity is currently a leading epidemic and an important public health challenge. The psychological impact of obesity in the patients with Coronary artery disease can be very disturbing. In practical terms the functional effect of an illness and its therapy upon a patient, as perceived by the patient – could be estimated by introducing the quantitative approach of – Health Related Quality of Life (HRQoL). The aim of this study is to evaluate the impact of obesity on quality of life of patients with ischemic heart disease.

Design and method: Questionnaire based cross sectional study was conducted among 520 patients who were admitted in the Cardiology Department between 1st of January 2012 and 30th June 2014 with acute coronary syndrome or coronary angiographic or Electrocardiography evidence of ischemic heart disease were included in the study, stratified by age, sex and BMI (normal weight 18.5 – 24.9, overweight 25 – 29.9, obese 30 and above). EuroQol – 5D (EQ-5D) was administered in the patients during their hospital stay. EQ-5D comprises 5 dimensions: mobility, self-care, usual activities, pain/discomfort and anxiety/depression. Each dimension has 5 levels: no problems, slight problems, moderate problems, severe problems and extreme problems. The height, weight and basic laboratory parameters were recorded.

Results: Mean age of the participants was 65.1 ± 10.6 years. The distribution of patients in BMI groups was 36.8%/ 24.4%/ 38.8%. Statistically significant differences between BMI groups were seen in Usual activity ($p=0.005$) and self-care ($p=0.044$) dimensions of EQ-5D-5L with poorest outcome in the obese. We have found significantly positive correlation between BMI and usual activities ($R=0.234$, $p=0.001$) and between age and anxiety ($R=0.366$, $p=0.045$). Mean BMI of patients with extreme problems with extreme problems with usual activities is significantly greater than those with lower intensity of problems. Patients with extreme anxiety tend to have higher mean age.

Conclusions: Our study revealed that Ischemic heart disease patients with obesity had impaired QoL in terms of health, mobility, usual activity, discomfort and anxiety. Hence non-obese ischemic heart disease patients had a better sense of overall well-being.

PP.01.37

DELETERIOUS EFFECTS OF COLD AIR INHALATION DURING EXERCISE IN CORONARY ARTERY DISEASE PATIENTS: DIFFERENTIAL EFFECTS OF ISOMETRIC AND DYNAMIC EXERCISE

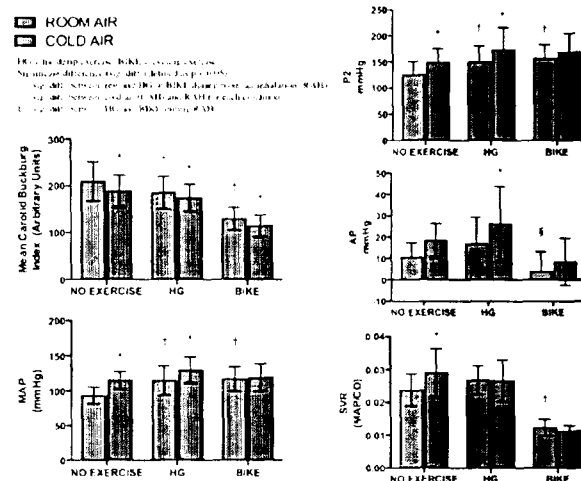
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Objective: Shovelling snow is the biggest cause of exertion-related cardiac death, involving isometric and dynamic exercise. However, mechanisms underlying deleterious effects of cold air inhalation (CAH) during different exercise stressors are poorly understood. We measured haemodynamic responses to handgrip and cycling in coronary artery disease (CAD) patients, \pm CAH, to assess the effect of CAH on afterload.

Design and method: Eight subcritical CAD patients (62 ± 9 yrs) underwent randomized stressors: -150°C cold air (CAH) or room air (RAH) inhalation for 5 minutes, combined with handgrip (30% maximal voluntary contraction) or cycling with an incremental work load for 5 minutes. Carotid pulse wave analysis and echocardiography were performed at peak stress. Heart rate (HR), mean arterial

pressure (MAP), and systemic vascular resistance (SVR) were calculated. P1, P2, augmentation pressure (AP) and Buckberg Index (BI) were derived using custom software. A lower BI ratio indicates increased risk of myocardial ischaemia. Data presented as mean \pm SD.

Results: CAH significantly reduced BI when combined with either handgrip or cycling. CAH, compared to RAH, increased afterload (MAP) when combined with handgrip (115.8 ± 22.4 vs 130.8 ± 26.7 mmHg, $p<0.001$), but not when combined with cycling (117.2 ± 16.8 vs 119.5 ± 18.9 mmHg, $p=NS$). P2 and AP, which are closely associated with myocardial contractility, increased with CAH during handgrip exercise but not during cycling. However CAH only caused a significant increase in HR when combined with cycling (130 ± 9.7 vs 140 ± 10.1 bpm, $p<0.05$). SVR decreased with cycling and increased with handgrip during RAH. CAH did not change SVR during handgrip or cycling. There were no significant differences between baseline measurements and RAH at rest.



Conclusions: This study shows, for the first time, that CAH significantly increases myocardial oxygen demand and the risk of myocardial ischaemia during isometric or dynamic exercise. However the mechanisms appear to be distinct. CAH likely causes an increase in sympathetic drive, which when combined with isometric exercise results in steady state (afterload) and pulsatile increases in arterial pressure, the latter being driven by increases in myocardial contractility. Yet dynamic exercise results in a sufficient reduction in SVR to override any increased resistance caused by CAH, with the principal determinant for increased myocardial oxygen demand being an increase in HR.

PP.01.38

IMPACT OF SHORT-TERM EXERCISE TRAINING ON ARTERIAL BLOOD PRESSURE, DOUBLE PRODUCT AND QT DISPERSION IN PATIENTS AFTER MYOCARDIAL INFARCTION

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Objective: The aim of this study was to establish the influence of short-term exercise training on arterial blood pressure (BP), double product (DP) and corrected QT dispersion (QTdc) in diabetic patients after myocardial infarction (MI).

Design and method: The study involved 375 patients after MI (mean age 57.1 years). Patients were randomly divided into the physical training group (TG: 333 patients) and non-training group (NTG: 42 patients). Diabetes was present in 107 (32.1%) patients in the TG and in 14 (33.3%) patients in the NTG. In all subjects exercise test were performed and after that TG patients were included in rehabilitation treatment for three weeks. TG patients were instructed to follow a training program using the bicycle ergometer (10 min, 2 times a day) and walking. The patients continued to take the same medications in same doses.

Results: Before starting with the program of physical training, TG patients with diabetes had significantly higher values of QTdc (81.4 ± 25.9 vs 68.9 ± 23.4 ms; $p<0.001$), while the values of DP, systolic and diastolic BP did not significantly vary in comparison to those without diabetes. After three weeks in the TG patients with diabetes, we have found significant reduction of systolic BP from 138.2 ± 13.4 to 131.7 ± 11.8 mmHg ($p<0.001$), of diastolic BP from 87.0 ± 7.8 to 83.8 ± 8.2 mmHg ($p<0.005$), of DP from 12203.7 ± 1962.2 to 11463.1 ± 1700.8 beat/min \times mmHg ($p<0.005$), of QTdc from 81.4 ± 25.9 to 73.8 ± 24.1 ms ($p<0.02$) and of glycemia from 8.2 ± 3.2 to 7.2 ± 1.9 mmol/L ($p<0.005$). In TG patients with-

increased LAVI. However, Five year MACE was not related to early systolic BP response to exercise.

PP.16.27 NO SIGNIFICANT ASSOCIATION BETWEEN VITAMIN D LEVEL AND HYPERTENSION IN COAL MINE WORKERS: EVIDENCE FROM KAILUAN STUDY

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Objective: Vitamin D insufficiency is very common in world-wide. Epidemiologic evidence has demonstrated that 25-hydroxyvitamin D [25(OH)D] is inversely associated with hypertension. Currently, the available data in the field are lacking in China.

Design and method: This study is a part of Kailuan study. the final sample group consisted of 3894 participants (including 2620 underground mine workers and 1274 surface workers) who received periodic health examinations during September 13, 2012 and December 24, 2012. Information on demographic factors, personal history and medical history were collected. Height, weight, blood pressure, plasma 25(OH)D, fasting blood glucose, total cholesterol, triglycerides, low-density lipoprotein cholesterol concentration, creatinine and high sensitive C-reactive protein were measured.

Results: The mean of 25(OH)D was 24.42±16.73nmol/l in the surface group and 20.22±15.21nmol/l in the underground group. The number (%) of vitamin D deficiency, insufficiency, inadequacy and sufficiency were 732(58.3), 424(33.7%), 86(6.9%), and 14(1.1%) in the surface group, 1777(70.2%), 627(24.8%), 115(4.5%) and 13(0.5%) in the underground group, respectively. No significant association between vitamin D level and the hypertension were found in the multivariable regression analyses.

Conclusions: Vitamin D deficiency was common in coal mine workers and surface workers in northern China. However, no significant association between vitamin D level and hypertension were found.

PP.16.28 CARDIOVASCULAR RISK FACTORS IN A GROUP OF HEALTH PROFESSIONALS. TWENTY YEARS FOLLOW-UP

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Objective: Verify, in a cohort of health professionals, prevalence and evolution of cardiovascular risk factors (CVRF) in a twenty years interval.

Design and method: We analyzed a group of health professionals at their first year in college and twenty years later. They answered a questionnaire about CVRF (hypertension, diabetes, dyslipidemia, family history of early CVD, smoking habits, drinking habits and physical activities practice). Cholesterol, glycemia, blood pressure (BP), weight, height, body mass index (BMI) and waist circumference were evaluated. Values of $p < 0.05$ were considered significant.

Results: From 281 subjects (62.99% women, mean age of 19,7 years), data from 215 individuals (59.07% women, mean age of 39,8 years) were used for comparison 20 years later. There was an increase in hypertension ($PA \geq 140 \times 90$ mmHg) overweight ($BMI > 25$ Kg/m²) and dyslipidemia (total cholesterol > 200 mg/dL) and a decrease in sedentarism. There was no change on prevalence of other CVRF evaluated. The analyses of systolic blood pressure (SBP), diastolic blood pressure (DBP), cholesterol, glycemia and BMI showed elevation in mean values of all these variables.

Cardiovascular Risk Factors comparison between 1993 e 2013

	1993 (n=281)	2013 (n=215)	p *
Cholesterol ≥ 200 mg/dL	7,8%(27)	24,2%(52)	<0,001
BP $\geq 140 \times 90$ mmHg	4,3%(15)	18,6%(40)	<0,001
BMI ≥ 25 kg/m ²	8,2%(23)	32,1%(69)	<0,001
Sedentary Lifestyle	50,2%(141)	38,1%(82)	0,007
Smoking	4,6%(13)	3,7%(8)	0,620
Alcohol Consumption	12,7%(36)	34,9%(75)	0,017

Chi Square Test. Values shown in percent and absolute values.
BP = blood pressure. BMI = body mass index

Mean values of BP, BMI, glycemia and cholesterol between 1993 and 2013

	1993 (n=281)	2013 (n=215)	p *
SBP (mmHg)	111,1(12,7)	118,7(13,9)	<0,001
DBP (mmHg)	71,9(8,5)	77,1(9,2)	<0,001
BMI (kg/m ²)	21,3(3,6)	24,6(3,8)	<0,001
GLYCEMIA (mg/dL)	73,8(6,0)	81,4(8,6)	<0,001
CHOLESTEROL (mg/dL)	145,2(32,1)	162,4(28,3)	<0,001

Values shown in mean values and standard deviation. * Student Test for independent samples
SBP = systolic blood pressure. DBP = diastolic blood pressure. BMI = body mass index

Conclusions: In a cohort of health professionals we found a significant elevation in mean values of SBP, DBP, cholesterol, BMI and glycemia in a twenty years interval. In the analyses of prevalence of CVRF there was an increase in hypertension, overweight and dyslipidemia and a decrease in sedentarism.

PP.16.29 PREVALENCE OF HYPERTENSION AMONG PATIENTS WITH ISCHEMIC HEART DISEASE. A COMPARATIVE ANALYSIS BETWEEN INDIAN AND BULGARIAN PATIENTS

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Objective: The objective of this study is to analyze and compare the prevalence of Hypertension among patients with Ischemic heart disease in Bulgaria and India.

Design and method: Cross-sectional study among patients with established Coronary Artery Disease admitted in the Department of Cardiology. Method: Study was carried out in the Cardiology Department – Dr. Georgi Stranski Hospital, Plevna- Bulgaria and Department of Cardiology, Lourdes Heart Institute and Neuro Center (LHINC), Cochin, Kerala, India. Participants of this study were 496 patients who were admitted in the Cardiology Department, Lourdes Heart Institute and Neuro Center (LHINC), Cochin, Kerala, India between 1st June 2012 and 31st Dec 2012 and 476 patients who were admitted in the Cardiology Department, Dr. Georgi Stranski Hospital Plevna- Bulgaria between 1st of January 2012 and 31st Dec 2013 with acute coronary syndrome or coronary angiographic or Electrocardiography evidence of ischemic heart disease. Patients were analysed for incidence and history of Hypertension. Data collected from the patients, old medical records, Clinical Examination with ambulatory blood pressure monitoring and Laboratory results of the patients were analyzed for the study.

Results: From the study, it was seen that the incidence of hypertension is only 39% among Indian patients with Ischemic Heart Disease, whereas 74% of Bulgarian patients gave history of hypertension ($p < 0.01$). The incidence of Pre-hypertension among the Indian patients is 14% and among the Bulgarian patients is 18% (p value > 0.01).

Conclusions: There is statistically significant difference in the occurrence of Hypertension among patients with Ischemic Heart Disease in Indian and Bulgaria, but in the Incidence of Pre-hypertension, there is no statistically significant difference between the two population. The prevalence and incidence of CAD along with the risk factor profile vary greatly across the regions of the world. Early detection and control of Hypertension, may be even treatment of Pre-hypertension should be considered as a preventive measures for CAD in both populations. A cost-effective preventive strategy will need to focus on reducing risk factors both in the individual and in the population at large.

PP.16.30 PREVALENCE OF CARDIOVASCULAR RISK FACTORS IN A POPULATION HYPERTENSIVE WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Comarca Araba, Vitoria-Gasteiz, SPAIN

Objective: The aim of our study was to determine the prevalence of cardiovascular risk factors in a hypertensive population with Chronic obstructive pulmonary disease (COPD).

Design and method: Descriptive cross-sectional study. Done in 5 health centers of Araba (Basque Country, Spain).

Results: The population is 308 people. 80.84% are men. The average age is 71.94 ± 10.33 years. 28.57% are smokers. The average Body Mass Index is 29.31. The 28.57% are diabetics. 3.9% have had a previous stroke, the 9.74% previous myocardial infarction. The 38.96% have hypercholesterolemia. The 13.96% have atrial fibrillation. The 10.71% have heart failure. The last systolic blood pressure was 137 ± 16 mmHg and diastolic blood pressure the last 78 ± 9 mmHg. The 88.31% have an electrocardiogram. The last figure of cholesterol is 139 ± 38 mg/dl. HDL cholesterol 54 ± 17 mg/dl. The last recorded creatinine is 0.96 ± 0.48 mg/dl.

Conclusions: It's a fairly cardiovascular risk population but control their risk factors is quite acceptable. Insist that they do not have to smoke as it is in many cases the cause of their OCPD.

PP.16.31 THE LIFESTYLE OF 681 PRIMARY CARE PATIENTS LIVING IN WESTERN POLAND: PATTERNS OF CIGARETTE SMOKING AND ALCOHOL USE

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Objective: The authors estimated the prevalence of selected cardiovascular risk factors among primary care patients in the district of Pleszew, a town with 18 thousands of inhabitants, located in western Poland. In this study we present age and sex differences in cigarette smoking and alcohol use in the examined population.

Design and method: The study population was recruited from primary care physician practice in Wielkopolska (Poland) and consisted of 681 patients aged 35-55 y., including 299 males (43.9%) and 382 females (56.1%). There were 295 subjects aged 35-45 y., including 113 males (38.3%) and 182 females (61.7%), and 386 subjects aged 46-55 y.: 186 males (47.6%) and 200 females (52.4%). Patients were asked to answer questions concerning lifestyle in the study questionnaire.

Results: Cigarette smoking was declared by 182 patients (26.7%): 100 females (26.2%) and 82 males (27.4%). Among subjects aged 35-45 y. there were 84 smokers (28.5%), whereas in older group 98 subjects (25.4%). We didn't find statistically significant sex and age differences in smoking. The most often given answer concerning alcohol drinking was: "I drink alcohol occasionally, once a week or less frequently" (this answer was calculated as 3 points). Both in whole population and in two groups divided by age, we found statistically significant sex differences in alcohol drinking: male subjects used to drink more alcohol units and more frequently. All results are presented in Table 1.

Conclusions: 1. There was no statistically significant sex and age differences in cigarette smoking in examined population. 2. Statistically significant greater alcohol use was detected in males, both in whole populations and in two groups divided by age.

Table 1 Cigarette smoking and alcohol use in the examined population

	Cigarette smokers		Alcohol use*
	Number of subjects	Percentage of examined population	Mean number of points
Whole population	182	26.7%	2.79
All women	100	26.2%	2.72
All men	82	27.4%	3.03
All subjects aged 35 - 45 years	84	28.5%	2.87
All subjects aged 46 - 55 years	98	25.4%	2.81
Women aged 35 - 45 years	47	25.8%	2.78
Men aged 35 - 45 years	37	32.7%	3.13
Women aged 46 - 55 years	53	26.3%	2.66
Men aged 46 - 55 years	45	24.2%	2.97

* Legend:
 1 point: "I don't drink alcohol at all."
 2 points: "I drank alcohol in the past, but I don't drink alcohol currently."
 3 points: "I drink alcohol occasionally, once a week or less frequently."
 4 points: "I drink alcohol several times a week, but not every day."
 5 points: male subjects - "I drink 1-3 alcohol units every day"; female subjects: "I drink 1-2 alcohol units every day."
 6 points: male subjects - "I drink at least 4 alcohol units every day"; female subjects: "I drink at least 3 alcohol units every day."

PP.16.32 PREVALENCE OF MICROALBUMINURIA AMONG MIDDLE-AGED POPULATION OF CHINA: A MULTIPLE-CENTER CARDIOVASCULAR EPIDEMIOLOGICAL STUDY

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Objective: Few studies have examined microalbuminuria (MAU) in Chinese populations. We assessed the prevalence of MAU and the relationships with other cardiovascular risk factors in Chinese populations.

Design and method: Data from a cross-sectional survey on risk factors of cardiovascular disease, which were conducted in 2009-2010. There were about 1000 participants for each of research populations including southern and northern, urban and rural in different parts of China, with international standardized examination and measurement. Half the subjects were men and half were women; their ages ranged from 35 to 64 years. Out of them, there were 10315 participants were eligible for analysis in our study. MAU was defined as the urine albumin to creatinine (ACR) ratio at 30 to 300 mg/g from a single-spot morning urine sample.

Results: The overall prevalence of MAU is 12.76% in total population, which was higher in female than in male (15.04% vs. 10.09%, $P < 0.0001$). The prevalence of MAU was 19.17% in people with obesity higher than those of overweight and normal weight (19.17% vs. 12.06% vs. 10.33%, $P < 0.0001$), was higher in people with hypertension than those of nonhypertension (19.95% vs. 8.17%, $P < 0.0001$); was higher in people with diabetes than those of nondiabetes (25.24% vs. 11.18%, $P < 0.0001$). Logistic regression analysis showed that gender (OR=1.85, 95%CI: [1.61, 2.13]), body mass index (for overweight group: OR=0.75, 95%CI [0.64, 0.87], for normal group: OR=0.75, 95%CI [0.64, 0.87] compared with obesity group), triglyceride (OR=1.43, 95%CI: [1.23, 1.65]), drinking (OR=1.23, 95%CI: [1.03, 1.47], high sensitivity C reactive protein (OR=1.01, 95%CI: [1.00, 1.02]), northerner (OR=0.74, 95%CI: [0.65, 0.83]), hypertension (OR=2.42, 95%CI: [2.13, 2.76]) and diabetes (OR=1.91, 95%CI: [1.61, 2.26]) were independently associated with MAU.

Conclusions: Microalbuminuria was found to be common in middle-aged population of China, especially in population with obesity, hypertension and diabetes. Microalbuminuria is associated with gender, area, hypertension, diabetes, drinking, body mass index, triglyceride, high sensitivity C reactive protein.

Design and method: Trained interviewers collected demographic parameters (age, sex), anthropometric data (weight, height, neck circumference, waist circumference), hypertension medical history and obtained blood pressure of 1448 adults (age average = 35.5 ± 18.1 years, men = 45.7%) living in Bukavu city with an appropriate cuff size. The probability of hypertension (BP $\geq 140/90$ mmHg or taking antihypertensive drugs) was assessed by multiple regressions.

Results: In the entire study population, systolic blood pressure (partial $r = 0.15$, $p < 0.0001$) and diastolic blood pressure ($r = 0.11$, $p < 0.0001$) were independently correlated to the neck circumference after adjustment for age, BMI and waist circumference. The NC test to predict hypertension showed an area under the curve of 0.687 (NC threshold value > 33 cm, sensitivity = 56.6 %, specificity = 76.8%) in women and 0.817 (CC threshold value > 35 cm, sensitivity = 66.7 %, specificity = 83.0%) in men. Finally, subjects in the third NC tertile had more frequently hypertension (adjusted OR = 2.88, $p < 0.0001$) compared to those in the first tertile after adjusting for abdominal obesity and advanced age.

Conclusions: The study shows a relationship between the neck circumferences and hypertension however additional studies are needed to confirm if it's a determinant or not of arterial hypertension independently of other insulin resistance markers in the black population.

PP.18.05 DIFFERENCES IN 24-HOUR AMBULATORY BLOOD PRESSURE ARE ASSOCIATED WITH DIFFERENCES IN NEUROENDOCRINE FACTORS IN OBESE MEN

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Objective: To investigate how differences in 24-hour systolic and diastolic ambulatory blood pressure (ABP) are associated with differences in neuroendocrine factors in obese men.

Design and method: In a cross-sectional study, we investigated 103 obese healthy medication-free men. Twenty-four-hour systolic ABP range was 106-170 mm Hg, and 24-hour diastolic ABP range was 60-99 mm Hg. We measured fasting plasma concentrations of glucose and fasting serum concentrations of insulin, mid-regional pro-atrial natriuretic peptide (MR-proANP) and B-type natriuretic peptide (BNP). We also measured fasting plasma concentrations of renin, angiotensin II, aldosterone and noradrenaline, and we measured 24-hour urinary noradrenaline excretion. We calculated insulin resistance using the homeostasis model of assessment of insulin resistance (HOMA-IR), and we used linear regression analysis with adjustment for age to examine associations between 24-hour systolic and diastolic ABP and the aforementioned neuroendocrine factors.

Results: Twenty-four-hour systolic ABP was negatively associated with MR-proANP ($\beta = -0.32$, $P < 0.01$) and BNP ($\beta = -0.05$), although the later association was not significant ($P = 0.60$). Twenty-four-hour systolic ABP was also associated with HOMA-IR ($\beta = 0.29$, $P < 0.01$) and with 24-hour urinary noradrenaline excretion ($\beta = 0.23$, $P = 0.02$), plasma noradrenaline ($\beta = 0.27$, $P = 0.01$) and plasma aldosterone ($\beta = 0.20$, $P = 0.04$), whereas 24-hour systolic ABP was not significantly associated with plasma renin ($\beta = 0.08$, $P = 0.39$) and plasma angiotensin II ($\beta = 0.10$, $P = 0.29$). Twenty-four-hour diastolic ABP was negatively associated with both MR-proANP ($\beta = -0.45$, $P < 0.01$) and BNP ($\beta = -0.22$, $P = 0.03$). Twenty-four-hour diastolic ABP was also associated with 24-hour urinary noradrenaline excretion ($\beta = 0.27$, $P = 0.01$), plasma noradrenaline ($\beta = 0.31$, $P < 0.01$), plasma renin ($\beta = 0.20$, $P = 0.04$), plasma angiotensin II ($\beta = 0.21$, $P = 0.03$) and plasma aldosterone ($\beta = 0.20$, $P = 0.05$), whereas no significant associations were found with HOMA-IR, glucose and insulin.

Conclusions: Based on normal human physiology, higher BP leads to higher circulating concentrations of NPs and lower activity of the renin-angiotensin-aldosterone system (RAAS) and the sympathetic nervous system (SNS). In this perspective, the negative associations found between 24-hour ABP levels and the NPs were unexpected, and the positive associations found between 24-hour ABP levels and several RAAS components and noradrenaline were also unexpected. Nevertheless, these findings could be relevant to our understanding of the pathophysiology of obesity-related hypertension.

PP.18.06 PREVALENCE OF OBESITY AMONG PATIENTS WITH ISCHEMIC HEART DISEASE. A COMPARATIVE ANALYSIS BETWEEN INDIAN AND BULGARIAN PATIENTS

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Objective: The objective of this study is to analyse and compare the prevalence of Diabetes Mellitus among patients with ischemic heart disease in Bulgaria and India.

Design and method: Cross-sectional study among patients with established Coronary Artery Disease admitted in the Department of Cardiology. Methods: Study was carried out in the Cardiology Department – Dr. Georgi Stranski Hospital, Pleven- Bulgaria and Department of Cardiology, Lourdes Heart Institute and Neuro Center (LHINC), Cochin, Kerala, India. 496 patients who were admitted in the Cardiology Department, Lourdes Heart Institute and Neuro Center (LHINC), Cochin, Kerala, India between 1st June 2012 and 31st Dec 2012 and 476 patients who were admitted in the Cardiology Department, Dr. Georgi Stranski Hospital Pleven- Bulgaria between 1st of January 2012 and 31st Dec 2013 with acute coronary syndrome or coronary angiographic or Electrocardiography evidence of ischemic heart disease. Patients were analysed for incidence Obesity and were classified based on Body Mass Index (BMI). Data collected from the patients, old medical records, Clinical Examination including height weight and abdominal circumference and Laboratory results the patients were analyzed for the study.

Results: From the study, it was seen among the Indian patients 7% were Underweight (BMI < 18.5), 23% are with Normal BMI (BMI 18.5-25), 40% are Overweight (BMI 25.5-30), 20% are with Class I Obesity (BMI 30.5-35), 9% are with Class II Obesity (BMI 35.5-40) and 1% is with Class III Obesity (BMI > 40). Among the Bulgarian patients the values are 1%, 23%, 32%, 18%, 15% and 11% respectively. In Indian patients the incidence of Obesity (BMI > 30) among males is 16% and among female patients is 45%. Among the Bulgarian patients the incidence of Obesity (BMI > 30) among males is 29% and among female patients is 62%.

Conclusions: Incidence of obesity in patients with Ischemic heart disease is more among the Bulgarian population and the incidence of obesity is more among females in both the population.

PP.18.07 THE EFFECTS OF DIET THERAPY ALONE OR COMBINED WITH ANTIHYPERTENSIVE MEDICATION ON THE REDUCTION OF BLOOD PRESSURE

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Objective: The aim of this study was to assess the effects of three-month diet therapy alone or combined with antihypertensive therapy on blood pressure.

Design and method: The study comprised 72 persons with elevated blood pressure who were treated for obesity at the Institute of Hygiene in Belgrade in 2010. 50 persons were currently treated with antihypertensive medications, whereas 22 persons had no antihypertensive therapy. All persons were prescribed diet therapy consisting of 1300 to 1600 kcal per day. Blood pressure was measured by oscillometry at the beginning of the study, and after three months. The differences between the groups were tested with Student's t test for paired samples.

Results: At the beginning, the average systolic blood pressure (SBP) was 139.49 ± 20.21 mmHg, average diastolic blood pressure (DBP) was 90.71 ± 11.75 mmHg for the whole sample (similar in both groups). After three months of therapy, the average SBP was 127.04 ± 16.44 mmHg, average DBP was 81.41 ± 9.23 mmHg for the whole sample (similar in both groups). Persons with antihypertensive therapy have reduced their SBP by 10.61 ± 16.98 mmHg, and their DBP by 6.73 ± 9.44 mmHg from baseline. After three months, most persons with antihypertensive therapy had stage I hypertension (16 patients, 32.7%), 14 persons (28.6%) had prehypertension, 14 persons (28.6%) had normal blood pressure, and 5 persons (10.2 %) had stage II hypertension. Persons without antihypertensive therapy have reduced their SBP by 8.64 ± 11.36 mmHg, and their DBP by 8.86 ± 10.23 mmHg from baseline. All changes from baseline were highly statistically significant. After three months, most persons with diet therapy alone

Conclusions: Available evidence supports an association of the main air pollutants with an overall increase in the risk for type 2 diabetes. This finding may have implications for population-based strategies to reduce diabetes risk.

PP.27.38 STUDY OF SILENT MYOCARDIAL ISCHEMIA IN TYPE 2 DIABETIC MALES

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Objective: The aim of this study is to detect the prevalence of silent myocardial ischemia (SMI) in type 2 diabetic males in Upper Egypt and to select male diabetic population who should be screened for SMI. The relation of various cardiac risk factors in type 2 diabetic males was also studied.

Design and method: The study include one hundred type 2 diabetic male patients with negative history of angina or anginal equivalent symptoms and thirty apparently healthy males as a control group. Laboratory estimation of fasting and post prandial blood glucose level, lipid profile, glycated hemoglobin (HbA1c), microalbuminuria, and C-reactive protein was done for all participants. Non invasive tests (NITs) including 12 leads resting ECG, trans-thoracic echocardiography, treadmill exercise ECG, myocardial perfusion imaging were done for all participants and patients positive for one or more NITs were subjected for coronary angiography.

Results: After the results of coronary angiography, 20 patients were positive for significant coronary artery stenosis in one or more vessels in patients with DM, while it was refused to be done by the patient in the control group. The patient group was subdivided into two subgroups according to the results of coronary angiography, 20 patients positive for SMI (positive for coronary angiography) and 80 patients negative for SMI (negative for coronary angiography). Smoking, hypertension, obesity, dyslipidemia, and family history of IHD were significantly higher in the diabetic subgroup positive compared to those negative for SMI. Ninety percent of patients in subgroup positive for SMI had two or more cardiac risk factors while only two patients had one cardiac risk factor (10%). Most of the patients positive for SMI had have DM for than 5 years duration.

Conclusions: Type 2 diabetic male patients should be screened for detection of SMI when they are above 50 years old, when DM duration is more than 5 years, in the presence of two or more cardiac risk factors and/or in patients with one or more of the chronic diabetic complications. CRP is an important for selection of type 2 diabetics who should be screened for SMI.

PP.27.39 PREVALENCE OF DIABETES MELLITUS AMONG PATIENTS WITH ISCHEMIC HEART DISEASE. A COMPARATIVE ANALYSIS BETWEEN INDIAN AND BULGARIAN PATIENTS

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Objective: The objective of this study is to analyze and compare the prevalence of Diabetes Mellitus among patients with ischemic heart disease in Bulgaria and India.

Design and method: Cross-sectional study among patients with established Coronary Artery Disease admitted in the Department of Cardiology. Method: Study was carried out in the Cardiology Department – Dr. Georgi Stranski Hospital, Pleven- Bulgaria and Department of Cardiology, Lourdes Heart Institute and Neuro Center (LHINC), Cochin, Kerala, India. Participants of this study were 496 patients who were admitted in the Cardiology Department, Lourdes Heart Institute and Neuro Center (LHINC), Cochin, Kerala, India between 1st June 2012 and 31st Dec 2012 and 476 patients who were admitted in the Cardiology Department, Dr. Georgi Stranski Hospital Pleven- Bulgaria between 1st of January 2012 and 31st Dec 2013 with acute coronary syndrome or coronary angiographic or Electrocardiography evidence of ischemic heart disease. Patients were analysed for incidence of Diabetes Mellitus and Impaired Glucose tolerance. Data collected from the patients, old medical records, Clinical Examination and Laboratory results including HbA1c, Fasting and Post-prandial blood sugar values and treatment history for Diabetes Mellitus were analyzed for the study.

Results: From the study, it was seen that the incidence of Diabetes Mellitus is 57% among Indian patients with Ischemic Heart Disease, whereas 34% of Bulgarian patients are with Diabetes Mellitus ($p > 0.01$). The Incidence of Impaired Glucose Tolerance among the Indian patients is 21% and among the Bulgarian patients is 19% (p value < 0.01).

Conclusions: There is statistically significant difference in the incidence of Diabetes Mellitus among patients with Ischemic Heart Disease in Indian and Bulgaria, but in the Incidence of Impaired Glucose Tolerance there is no statistically significant difference between the two populations. The prevalence and incidence of CAD along with the risk factor profile vary greatly across the regions of the world. Early detection Diabetes Mellitus and control of glycaemic status by drugs and dietary modifications in case of impaired Glucose tolerance play a significant role in the prevention of CAD in both populations.

PP.43.22 INCIDENCE OF DYSLIPIDEMIA AMONG PATIENTS WITH ISCHEMIC HEART DISEASE. A COMPARATIVE ANALYSIS BETWEEN INDIAN AND BULGARIAN PATIENTS

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Objective: The objective of this study is to analyse and compare the incidence of Dyslipidemia among patients with Ischemic heart disease in Bulgaria and India.

Design and method: Cross-sectional study among patients with established Coronary Artery Disease admitted in the Department of Cardiology. Method: Study was carried out in the Cardiology Department – Dr. Georgi Stranski Hospital, Pleven- Bulgaria and Department of Cardiology, Lourdes Heart Institute and Neuro Center (LHINC), Cochin, Kerala, India. Participants of this study were 496 patients who were admitted in the Cardiology Department, Lourdes Heart Institute and Neuro Center (LHINC), Cochin, Kerala, India between 1st June 2012 and 31st Dec 2012 and 476 patients who were admitted in the Cardiology Department, Dr. Georgi Stranski Hospital Pleven- Bulgaria between 1st of January 2012 and 31st Dec 2013 with acute coronary syndrome or coronary angiographic or Electrocardiography evidence of ischemic heart disease. Patients were analysed for incidence of Dyslipidemia based on the fasting lipid profile and treatment history for dyslipidemia. Data collected from the patients, old medical records, Clinical Examination and Laboratory results of the patients were analyzed for the study.

Results: From the study, it was seen that the incidence of dyslipidemia is 71% among Indian patients with Ischemic Heart Disease, and incidence of dyslipidemia is 82% among Bulgarian patients with ischemic heart disease ($p > 0.01$).

Conclusions: There is no statistically significant difference in the occurrence of dyslipidemia among patients with Ischemic Heart Disease in Indian and Bulgaria. Proper management of cholesterol and triglyceride levels is significant in both the population for the prevention of Ischemic Heart disease.

PP.43.23 COMPARISON OF EFFICACY OF INTENSIVE VERSUS MILD PITAVASTATIN THERAPY ON LIPID AND INFLAMMATION BIOMARKERS IN HYPERTENSIVE PATIENTS WITH DYSLIPIDEMIA

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Objective: Intensive as compared to mild statin therapy has been proven to be superior in improving cardiovascular outcome, whereas the effects of intensive statin therapy on inflammation and lipoprotein biomarkers are not well defined.

Design and method: This study assigned essential hypertensive patients with dyslipidemia to 6 months administration of mild (1 mg/day, n=34) or intensive pitavastatin therapy (4 mg/day, n=29), and various lipid and inflammation biomarkers were measured at baseline, and 3 and 6 months after the start of treatment.

Results: Both pitavastatin doses were well tolerated, and there were no serious treatment-related adverse events. After 6 months, significant improvements in total cholesterol, triglycerides, low-density lipoprotein (LDL-) cholesterol, LDL/ high-density lipoprotein cholesterol (LDL/HDL), apolipoproteins B, C-II, and E, apolipoprotein-B/apolipoprotein-A-I (Apo B/Apo A-I), and malondialdehyde (MDA-) LDL were observed in both groups. Compared with the mild pitavastatin group, the intensive pitavastatin therapy showed significantly greater decreases in C reactive protein ($F=3.76$, $p < 0.05$), total cholesterol ($F=10.65$), LDL-cholesterol ($F=23.37$), LDL/HDL ($F=12.34$), apolipoproteins B ($F=19.07$) and E ($F=6.49$), Apo B/Apo A-I ($F=13.26$), and MDA-LDL ($F=5.76$) ($p < 0.01$, respectively).

Conclusions: Intensive pitavastatin therapy may have a more favorable effect not only in decreasing LDL-cholesterol but also in pleiotropic benefits in terms of improvement of apolipoproteins, inflammation, or oxidation.

PP.43.24 POLYUNSATURATED FATTY ACIDS REDUCE HDL CHOLESTEROL IN PRIMARY HYPERTENSIVE PATIENTS INDEPENDENTLY OF METABOLIC SYNDROME PRESENCE

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Objective: In this study we evaluated the association between fatty acid composition of red blood cell (RBC) membranes as a marker of fatty acids intake and the metabolic profile of hypertensive patients with and without metabolic syndrome (MS).

Design and method: Fifty patients (age 63±8 yr., M/F=24/26) with primary hypertension were divided in those with and without MS (36% and 64%, respectively) according to the 2003 AACE criteria. Fatty acid composition of RBC membranes, variables of glucose and lipid metabolism, and homeostasis model assessment (HOMA) as index of insulin resistance, were evaluated at baseline and after 6 months of a diet characterized by 3 times weekly fish meals supplementation. The diet was designed to increase the polyunsaturated to saturated fatty acid (PUFA/SFA) ratio in RBC membranes.

Results: At baseline hypertensive patients with MS had higher BMI, HOMA index, and triglycerides, glucose, insulin, and C-peptide levels, and lower HDL cholesterol, PUFA, PUFA/SFA ratio, and n-6 PUFA than patients without MS. Univariate analysis showed a strong and independent direct association between PUFA/SFA ratio in RBC membranes and HDL cholesterol levels ($r=0.606$, $P<0.001$). After 6 months of fish meals supplementation only 11 patients in both groups of patients, with and without MS, increased their PUFA/SFA ratio in RBC membranes (61% and 34%, respectively). The only predictor of such an increment was the lower baseline PUFA/SFA ratio (Odds Ratio 2.14e-20, 95% CI from 5.24e-40 to 0.87) in a model including also age, sex, and MS presence. HDL cholesterol increased in both groups of patients with and without MS (+12%, $P<0.050$ and +16%, $P<0.001$, respectively), whereas only patients with MS had an increment in insulin and C-peptide levels (+27% and +29%, respectively, both $P<0.05$).

Conclusions: HDL cholesterol is strongly and independently associated to the baseline PUFA/SFA ratio in RBC membranes and also with the PUFA/SFA ratio increment after fish meals supplementation. Although these findings suggest a positive effect of the PUFA/SFA ratio on HDL cholesterol independently of MS presence, the concomitant rise in insulin production in patients with MS could limit the overall beneficial effect of the intervention in these patients.

PP.43.25 SHORT AND LONG TERM OF A 3-MONTH KETOGENIC DIET ON CARDIOVASCULAR RISK PROFILE IN THE SETTING OF CLINICAL PRACTICE

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Objective: Ketogenic diets have been shown in the short-term to promote weight loss, and to improve some metabolic parameters of obese patients, in highly specialized obesity clinics. Our aim was to test the short and long-term effects of a 3-month ketogenic diet on the cardiovascular disease risk profile of overweight-obese patients in the setting of general practice.

Design and method: We consecutively recruited 377 subjects (M: 22%, W: 78%; mean age: 46±10 years, mean BMI: 31±3). They were instructed to follow a 3-month ketogenic diet, and then to gradually recover to a balanced diet with a follow-up visit at 6 and 12 months. Changes in studied parameters was evaluated by ANOVA for repeated measures.

Results: After three months, there was a significant improvement in body weight (-7.6±5.6 kg), BMI (-2.8±2.3 kg/m²). Waist circumference (-7.1±4.4 cm), Index of Central Obesity (-0.04±0.02), and % of fat (-3.8±3.8) (all, $p<0.01$), that further improved at 6 months ($p<0.05$), and then remained constant till 12 months. FPG (-8.7±15, 3 mg/dL), HbA1c (-0.2±0.7%), LDL-C (-19.4±31.2 mg/dL), TG (-23.4±61.2 mg/dL), gGT (-4.0±11.4 mg/dL) and SBP (-10.5±12.8 mmHg), DBP (-2.2±6.2 mmHg), PP (-8.4±12.6 mmHg) improved after 3 months and the stabilized till 12 months. HDL-C (+1.8±11.7 mg/dL), and SUA (-0.4±2.9 mg/dL) only improved after 6 months ($p<0.05$) and then stabilized till the end of the study. No significant change in renal parameters or electrolytes changes was observed beyond a mild but significant decrease in calcemia ($p<0.05$). The long term body weight loss was higher in those subjects experiencing a ketonuria in the first period of diet, and was directly related to the baseline body fat mass and inversely to the patient age.

Conclusions: Hypertensive urgencies and emergencies are a common clinical problem for the hospital based cardiologist. Such patients require hospital admission and in some cases prolonged stay and thus utilize a significant part of healthcare resources. It is speculated that many of these events could have been prevented through better patient education or adherence to treatment.

PP.45.13 GENDER RELATED HOSTILITY IN NEWLY DIAGNOSED ESSENTIAL HYPERTENSION

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Objective: A growing body of evidence indicate the implication of hostility in the elicitation and course of hypertension, however the exact nature of this phenomenon is poorly understood especially concerning the gender aspect. Taking into account this caveat the present study focuses to investigate the gender related hostility in newly diagnosed hypertension.

Design and method: The study population consisted of 107 newly diagnosed hypertensive Patients, 61 males (mean age=48.9±9.7) and 46 females (mean age=50.7±10.9) All subjects underwent 24-hour ambulatory blood pressure monitoring (ABPM) (Spacelabs 90207) in order to establish the diagnosis of hypertension and to exclude white coat hypertension. The subjects were measured on a working day and were instructed to perform as usually. Exclusion criteria were current or recent use of medications including psychiatric and antihypertensive drugs, as well as the diagnosis of any systemic disease or psychiatric disorder.

In order to assess the hostility status all subjects completed the Hostility and direction of Hostility Questionnaire (HDHQ) which presents seven biologically-based independent dimensions of hostility. Acting out Hostility/Critic to the Others/Delusional-deranged Hostility/Self Critic/Guilt/Introversion-Extroversion and Direction.

The SPSS statistical package was used to store and analyse the data.

Results: There were not significant differences between the two groups concerning baseline characteristics as well as blood pressure measurements (office and ambulatory). Analyses revealed that male subpopulation as compared to the female one exhibited statistically significant increase regarding the urge to act out hostility ($p=0.014$), an increasing introversion status ($p=0.019$), and they showed statistically increased the self rated self criticism ($p=0.002$). On the other hand the female subpopulation demonstrated an increased guilt dimension ($p=0.027$) compared to the male one. Finally, concerning the direction of hostility a clear dominance of the male population has been noticed ($p=0.001$).

Conclusions: The study provides further evidence indicating the gender related hostility differences between newly diagnosed hypertensive patients and this linkage might deserve greater attention from diagnosticians and health professionals.

PP.45.14 GENDER DIFFERENCES AND PERSONALITY TRAITS ASSESSED BY EYSENCK PERSONALITY QUESTIONNAIRE IN NEWLY DIAGNOSED HYPERTENSION

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Objective: There is growing evidence suggesting gender differences in essential hypertension explained by the specific role of sex hormones. However little is known about gender differences concerning personality traits in essential hypertension. The aim of our study was to compare extroversion, neuroticism and psychoticism in men and women suffered from essential hypertension at the time of the diagnosis.

Design and method: The study population consisted of 106 newly diagnosed hypertensive patients.

All subjects underwent 24-hour ambulatory blood pressure monitoring (ABPM) (Spacelabs 90207) in order to establish the diagnosis of hypertension and to exclude white coat hypertension. The subjects were measured on a working day and were instructed to perform as usually.

Exclusion criteria were current or recent use of medications including psychiatric and antihypertensive drugs, as well as the diagnosis of any systemic disease or psychiatric disorder

In order to assess personality traits all subjects completed the Eysenck Personality Questionnaire (EPQ) which presents three biologically-based independent dimensions of temperament: Extraversion/introversion, neuroticism/stability, psychoticism/socialization

The SPSS statistical package was used to store and analyse the data.

Results: The sample consisted of 64 males (mean age=48.9±9.7) and 42 females (mean age=50.7±10.9). There were not significant differences between the two groups concerning baseline characteristics as well as blood pressure measurements (office and ambulatory). Hypertensive male subjects present significantly higher levels of psychoticism ($p=0.003$) and neuroticism ($p=0.04$) compared to hypertensive females. Comparison between the 2 groups regarding extroversion revealed no statistically significant difference ($p=0.4$).

Conclusions: The present findings suggest that personality traits play an important role concerning gender differences in newly diagnosed essential hypertension. The differences in personality traits between hypertensive men and women should be considered in the management of newly diagnosed hypertensive patients.

PP.45.15 SOCIOECONOMIC STATUS AND HYPERTENSION AMONG ADULTS IN AN URBAN SETTLEMENT (KIBERA) IN NAIROBI, KENYA

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Objective: Using education, occupation and wealth index as socioeconomic measures, we examined the association between socio economic status and hypertension among adult residents of an urban settlement (Kibera) in Nairobi, Kenya.

Design and method: We conducted a community based cross-sectional survey among 1528 adults aged 35-64 years using the modified World Health Organization STEPwise approach to surveillance of chronic disease. Multivariable log-binomial regression models were used to estimate associations between socio economic status and hypertension. Body Mass Index was included into the model as it mediates the association between socio economic status and hypertension.

Results: The prevalence of hypertension was 27% (95% CI 27-29) with substantial variations across the age groups (18%, 35% and 52%: 35-44, 45-54 and 55-64, respectively). We observed significantly higher prevalence of hypertension among participants with no formal education 34.3% compared to those with at least some primary (24.7%), secondary (26.3%) or tertiary (25.6%) education ($p<0.05$). Prevalence of hypertension for unemployed participants and those engaged in casual employment (28.8%) was similar to that observed for in participants engaged in formal (26.7%) or self-employment (25.7%). Among five wealth quintiles, prevalence of hypertension was highest amongst persons in the 5th (richest) quintile 32.9%. Compared to participants with normal weights, overweight (PRR=1.4, [95% CI: 1.14, 1.73]) and obese participants (PRR=1.6, [95% CI: 1.28, 2.04]) were more likely to have hypertension. The model adjusted for age and gender indicated no association between all the SES measures and hypertension. However, when BMI was added to the model, having at least primary education reduced the risk for hypertension by 17%, (RR =0.83 [95% CI: 0.69-0.99]), as compared to those who had no education at all.

Conclusions: Hypertension among the urban poor adults cannot be solely attributed to SES. Further study is needed to determine whether marginal increases in wealth are associated with adoption of habits associated with increased risk for hypertension.

PP.45.16 EVALUATION OF THE PARAMETERS OF THE EURO QOL-5D QUESTIONNAIRE UNDER NORMAL CLINICAL PRACTICE CONDITIONS ON HYPERTENSIVE PATIENTS WITH NORMAL AND ELEVATED BMI

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Objective: The epidemic of obesity and obesity-related hypertension is an important public health challenge, increasing worldwide and paralleled by growing

incidence of metabolic syndrome. The psychological impact of these chronic conditions can be very disturbing. In practical terms the functional effect of an illness and its therapy upon a patient, as perceived by the patient- could be estimated by introducing the qualitative approach of - 'Health Related Quality of Life (HRQoL).

The aim of this study is to evaluate the impact of obesity on the quality of life of hypertensive patients.

Design and method: Randomized questionnaire based cross-sectional study was conducted in the Department of Cardiology, University Hospital. 130 patients with hypertension, stratified by age, sex and BMI (normal weight 18.5-24.9; overweight 25-29.9, obese 30-35) were chosen at random. Inclusion Criteria: Patients with diagnosis of essential hypertension on regular medication for at least the last 6 months. Administration of the EuroQol-5D (EQ-5D) at the time of admission of the patient. EQ-5D comprises 5 dimensions: mobility, self-care, usual activities, pain/discomfort and anxiety/depression. Each dimension has 5 levels: no problems, slight problems, moderate problems, severe problems, and extreme problems. The height, weight, smoking/non-smoking status and standard laboratory parameters were recorded.

Results: Mean age of the participants was 63.1 ± 12.6 years. Male/female ratio was 0.78, distribution of patients as smoker/ex smokers/nonsmoker was 20%/12.3%/67.2%. The distribution of the patients in BMI groups was 37.7%/28.5%/33.8%. Most patients had no intake of nuts in their diet. Statistically significant differences between BMI groups were seen in Usual activity ($p=0.005$) and Self-care ($p=0.044$) dimensions of EQ-5D-5L with poorest outcome in the obese. We have found significantly positive correlation between BMI and usual activities ($R=0.234$, $p=0.001$) and between age and anxiety ($R=0.366$, $p=0.045$). Mean BMI of patients with extreme problems with usual activities is significantly greater than those with lower intensity of problems. Patients with extreme anxiety tend to have higher mean age.

Conclusions: Our findings showed that individuals with obesity and hypertension had impaired QoL in terms of health, mobility, usual activity, discomfort, and anxiety. Hence, non-obese hypertensives had a better sense of overall well-being.

PP.45.17 ADJUDICATION OF DEATH IN PURE STUDY IN MALAYSIA BY VERBAL AUTOPSY

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Objective: Prospective Urban and Rural Epidemiological Study (PURE) has been conducted in Malaysia since 2007, VA is used to adjudicate death events and to classify the broad patterns of mortality occurred during the cohort follow-up.

Design and method: A group of non-medical research workers has been trained to perform VA - a systematic retrospective inquiry interviews with the family members or caretakers of imminent decedents by using a standardized and validated checklist tool. Subsequently, they were needed to describe the chronology of events, the appearance of signs and symptoms, progression of the disease, history of similar episodes in the past and the details of treatment received prior to death, if any, in a narrative VA report. To enhance accuracy, any copies of relevant supportive medical documents, if provided, were submitted together with the reports. After reviewing the VA reports, trained clinicians assigned the most likely COD based on the case definitions set by PURE study and the 10th revision of International Classification of Diseases (ICD-10).

Results: From 2009 to 2013, a total of 121 cases of death were observed in PURE cohort population of 7297 subjects. Only 23.1% deaths occurred in the hospitals and certified by medical doctors. There were 5.8% deaths (7 cases) certified by non-medical registrars as "died of old age". After adjudication for all deaths, non-communicable diseases (NCD) were the leading cause of death; representing 71.9% (87 cases) of all deaths. Cardiovascular diseases accounted for the most NCD deaths (65.5%, 57 cases), followed by cancer (28.7%, 25 cases), and diabetes mellitus (2.3%, 2 cases).

Conclusions: Cardiovascular disease is still the leading COD in Malaysia. VA is useful assessment tool to adjudicate the COD observed in PURE study. It can reduce the misclassification of COD and reduce the proportion of deaths attributed to unspecified causes.

PP.45.18

PREVALENCE OF ANXIETY, DEPRESSION, COGNITIVE IMPAIRMENT AND THEIR ASSOCIATED FACTORS AMONG MALAYSIAN ELDERLY WITH HYPERTENSION IN TWO RURAL COMMUNITIES

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Objective: Hypertension is a major chronic disease which increases tremendously throughout the years especially among the elderly. It may lead to both; major and minor complications. Depression, anxiety and cognitive impairment in individuals with hypertension are associated with the poor outcomes of the disease. This study aims to determine the prevalence of depression, anxiety, and cognitive impairment among elderly patients with hypertension attending health clinics in Hilir Perak and Sabak Bernam districts besides identifying significant factors that are associated with anxiety, depression and cognitive function in the same study group.

Design and method: Cross-sectional study was carried out in six randomly selected health clinics in Hilir Perak, Perak and Sabak Bernam, Selangor of Malaysia. A total of two hundred and nine eligible consenting respondents participated in the study. The baseline socio-demographic and clinical variables were recorded through face to face interview. The anxiety and depression symptoms were assessed using validated hospital anxiety and depressive scale (HADS) while cognitive impairment function was assessed using Elderly Cognitive Assessment Questionnaire (ECAQ). Data analysis was done using x2 test, simple and multiple logistic regressions.

Results: In this study, the prevalence of anxiety, depression and cognitive impairment among the elderly patients with hypertension were 16.3%, 18.2% and 12.4% respectively. From the study, weight measurement ($p=0.002$) and body mass index ($p=0.005$) were found to be significantly associated with anxiety while cognitive impairment showed significant association with educational level ($p<0.001$) and age ($p<0.001$) of a patient.

Conclusions: Study showed relatively higher prevalence of depression rather than anxiety and cognitive impairment among the elderly hypertensive patients in Hilir Perak and Sabak Bernam districts. Our findings could help medical staff identify high risk patients with hypertension for screening of mental disorders. Education of caregivers and medical staff about old age depression may increase its rate of detection and facilitate improved treatment.

PP.45.19

SODIUM, POTASSIUM AND IODINE EXCRETION AMONG NEW ZEALAND ADULTS: IMPLICATIONS FOR PUBLIC HEALTH

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Objective: To quantify population intake of iodine, sodium and potassium in New Zealand adults to assess the best approach for a sodium reduction strategy while optimising iodine and potassium status.

Design and method: Population based survey of New Zealand Adults, using urinary excretion as an indicator of dietary intake. Between Feb-Oct 2012, adults aged 18-64 years were randomly selected via the electoral roll from the cities of Wellington and Dunedin, New Zealand. A snowballing technique was also employed to obtain a sample size of at least 300 adults. Participants had height, weight, and blood pressure measured, and were asked to collect a 24 hour urine sample.

Results: 301 adults completed the study. Mean BMI was 26.7 kg/m^2 , and mean systolic blood pressure was 126mmHg. Only 23% (95% CI 18,28) of adults had an Adequate Intake of potassium, and 76% (95% CI 71,81) of adults had a sodium excretion that exceeded recommended Upper Level of intake for sodium according to relevant Nutrient Reference Values. Mean 24 hour urinary (24hU) sodium excretion was 3373 mg/day (95% CI 3208, 3539) (3833 mg/day for men and 2934 mg/day for women). Mean 24hU potassium excretion was 2728mg/day (95% CI 2611, 2844) (3005mg/day for men and 2463mg/day for women). Mean sodium potassium ratio was 1.3. The mean 24hU iodine excretion was 124 (95%CI 117,132) $\mu\text{g/day}$ and 32% (95% CI 27,37) of the population had a 24hr urinary iodine excretion $<100 \mu\text{g/day}$ (the Estimated Average Requirement for iodine).

Conclusions: New Zealand adults had marginal iodine intakes, high sodium intake and low potassium intake. High sodium and low potassium intakes are as-

PP.14.33 PREVALENCE AND CHARACTERISTICS OF TREATMENT RESISTANT HYPERTENSION IN CONSECUTIVE OUTPATIENT ANALYSIS

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Objective: The purpose of this study was to retrospectively investigate prevalence and characteristics of treatment-resistant hypertension (R-HT) in consecutive outpatients, since such patients would be candidates for catheter-based renal sympathetic denervation (RD).

Design and method: Consecutive hypertensive outpatients (June 2009-May 2013, n=999) in our hospital were recruited for analysis. The patient of R-HT was defined as SBP over 160 mmHg taking three or more antihypertensive drugs with more than routine doses, which was the same selective BP condition for RD.

Results: This investigation found only 26 (2.6%) R-HT patients. R-HT group included 8 (31%) CKD patients with less than G3a (eGFR < 45 ml/min/1.73 m²). Compared to non-R-HT group, R-HT group showed significantly higher age (3 were not in 15-85), BNP, urinary albumin-creatinine excretion ratio of spot urine, pulse wave velocity, left ventricular end-diastolic diameter and interventricular septal thickness measured by UCG. Hemoglobin, serum albumin, eGFR, plasma renin activity, plasma aldosterone were significantly lower in R-HT group. Urinary Na/creatinine ratio was tend to be higher in R-HT group.

Conclusions: Our retrospective cross sectional study revealed that the prevalence of R-HT among generally treated hypertensives was quite low. R-HT was in high risk and appeared to be under high salt intake. Our survey revealed that only 15 patients (1.5%) out of 999 hypertensive outpatients matched with selection criteria for RD.

PP.14.34 RESISTANT HYPERTENSION IN HIGH-RISK METABOLIC SYNDROME WITH REDUCED GFR

S. Ohri, K. Gospodinov, N. Stancheva, C. James, A. Yanakieva, S. Tisheva. *Department of Cardiology, University Hospital, Dr. Georgi Stranski, Plevna, BULGARIA*

Objective: The metabolic syndrome is a constellation of metabolic and vascular abnormalities that include insulin resistance, central or visceral obesity, hypertension, dyslipidemia and oxidative stress. The development of a particularly resistant form of hypertension in these individuals can be attributed to a number of factors including vasoconstriction and inappropriate activation of the renin-angiotensin-aldosterone system. This case demonstrates a high risk patient with metabolic syndrome and poorly controlled resistant hypertension. Additionally due to the inadequately controlled hypertension she was beginning to develop rhythm disturbances.

Design and method: Case description: Female Caucasian 63years age was admitted in the Cardiology Department, University Hospital, Plevna in May 2009 with complaints of fatigue, dyspnea, precordial discomfort, arrhythmia and palpitations precipitated by moderate physical activity. The symptoms started due to poor ambulatory BP control with BP values reaching upto 240/140mmHg. The hypertensive crisis usually continued for about 30-40minutes and came under control only with Chlofazolin tablet. Presence of long term poorly controlled hypertension, Diabetes Mellitus type 2, Hypercholesterolemia, overweight and family history of cardiovascular diseases worsened the patient's prognosis. Paraclinics showed hypercholesterolemia and GFR=45ml/min/1.73m². Interestingly, on normal ECG the patient registered sinus rhythm but during the occurrence of hypertensive crisis, the evening of admission, a short period of Atrial Fibrillation was recorded with spontaneous conversion to sinus rhythm on normalization of the BP. Echocardiography demonstrated extensive hypertrophic changes in the interventricular septum and posterior wall of the left ventricle with diastolic dysfunction. The therapy started in the clinic with appropriate antihypertensives and OHD. For the atrial fibrillation we advised the strategy of using Rhythmnorm as per need. On CHADS2 VAS score=3 and Apixiban 2x2.5mg was started.

Results: On exercise stress test good BP and HR control was achieved and after 2 weeks on follow-up checkup the dose of Chlofazolin was reduced to 3x1/2tab due to poor tolerance to normal BP values.

Conclusions: Therapeutic strategy is successful on proper assessment of risk factors and comorbidities. The use of loop diuretic provides a small number of

large volume micturition. In ischemic heart disease and reduced GFR, ACE-inhibitors with double elimination are required.

PP.14.35 LARGE ARTERIES COMPLIANCE IS A PREDICTOR OF MYOCARDIAL ISCHEMIA IN RESISTANT HYPERTENSIVE PATIENTS

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Objective: Hypertension is the most prevalent and significant modifiable risk factor for coronary heart disease. A part of these hypertensive patients presents resistant hypertension (RHTN), which impacts greater cardiovascular risk, and altered arterial elastance, with higher arterial stiffness. Myocardial ischemia incidence increases along with blood pressure (BP) levels. However, the prevalence of myocardial ischemia in patients with RHTN is unknown, as well as the factors associated with it.

Design and method: We enrolled 129 patients with true RHTN regularly followed in our specialty hypertension clinic and evaluated then by resting and dipyridamole pharmacological stress myocardial perfusion scintigraphy. Patients were then divided in two groups: with (I-RHTN, n=36) and without (NI-RHTN, n=93) myocardial ischemia. Biochemical markers, flow mediated dilation and pulse wave velocity (cf-PWV) were also evaluated.

Results: Thirty-six (28%) patients had myocardial ischemia. There was no difference between groups regarding age, gender, biochemical parameters, office and 24h-ABPM BP levels. Patients in the I-RHTN group were more likely diabetic (31 vs. 11%, p<0.05) and obese (75 vs. 40%, p<0.001). Adjusting for age, BMI and beta-blockers use, multiple logistic regression showed that that diabetes (OR 4.8; 95%CI: 1.2-19.3, p<0.001), flow mediated dilation (OR 0.27; 95%CI: 0.14-0.54, p<0.001), microalbuminuria (OR 26.4; 95%CI: 6.0-117, p<0.001) and cf-PWV<10m/s (OR 12.8; 95%CI: 2.9-56.3, p<0.001) were independent predictors of ischemia.

Conclusions: There is a high prevalence of myocardial ischemia in patients with RHTN. Diabetes, microalbuminuria and endothelial dysfunction are associated to myocardial ischemia in RHTN. Interestingly myocardial ischemia was associated with the absence of arterial stiffness in these patients. This may instigate some new aspects of coronariopathy and large artery rigidity in this unique group of RHTN patients.

PP.14.36 PREVALENCE OF RESISTANT HYPERTENSION AT THE HYPERTENSION UNIT HOSPITAL CENTRAL SAN CRISTÓBAL TACHIRA DURING 2009-2013

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Objective: Resistant hypertension is a common clinical problem faced by both primary care clinicians and specialists. While the exact prevalence of resistant hypertension is unknown, clinical trials suggest that it is not rare, involving 10% to 30% of study participants. As older age and obesity are 2 of the strongest risk factors Resistant hypertension is defined as blood pressure that remains above goal in spite of the concurrent use of 3 antihypertensive agents of different classes. Ideally, one of the 3 agents should be a diuretic. The former includes patients who lack blood pressure control secondary to poor adherence and/or an inadequate treatment regimen, as well as those with identifiable causes of hypertension.

The aim was evaluated prevalence of resistant hypertension at the Hypertension unit in San Cristóbal, during 2009 - 2013.

Design and method: An observational, cross-sectional Study, including all patients attended during 2009 to 2013, at minus of three antihypertension agents at maximal doses, including diuretic, who not reached targets systolic and diastolic blood pressure, under 140/90 mm mercury. Excluded non adherent patients, using the Morinsky 8 item medication adherence scale pseudohypertension using a 24 hour ABPM, a Mobilograph NG, and identifiable causes of hypertension, performed laboratory test and images.

Results: Of 2850 clinical records were included 734 who meet all inclusion criteria, only 15 (1.98%) were classified as resistant hypertension. 12 female, age average was 65.27 years, all sedentary, hyperlipidemic, in a high and very high cardiovascular risk, 10 with left ventricular hypertrophy, 1 with angina, 1 with myocardial infarction, and 2 with stroke. 12 had an non dipping pattern.

[2009][800] New approaches in treatment of acutely decompensated heart failure

N. Stancheva, K. Bakardgieva, V. Jordanova, S. Tisheva. University Hospital Georgi Stranski, Pleven, Bulgaria

Initial therapy in patients with acute heart failure should be directed at improving oxygenation and patient haemodynamics as well as providing symptom relief. We investigated the tolerability as well as efficacy of intravenous infusion of nesiritide, recombinant hBNP, and levosimendan (Simdax), calcium sensitizer in patients with acutely decompensated heart failure of any etiology. They received either permanent intravenous nesiritide (2 mcg/kg bolus dose followed by 0.01 mcg/kg/min) or levosimendan (Simdax) (6-12 µg/kg infused over 10 minutes followed by a continuous infusion of 0.1 µg/kg/min) at least 24 hours and were followed for 1 month for changes in their dyspnea and well-being status, self-assessed overall health status, NYHA class function, hospitalization for worsening of HF symptoms, frequency of visits to the emergency yard, cardiac output (CO), and any possible side effects. Thirty nine patients (31 were males with a mean age of 68 ± 7 years) were included. Twenty nine received Nesiritide and 17 received Levosimendan infusion for at least 24 hours. Most of the patients had no change in dyspnea and well-being on the sixth hour. But all of them had minimal or moderate decrease in dyspnea and improvement in their well-being on the twentyfourth hour. At the beginning of the study, all patients were in NYHA class III. One month later 26 had improvement in their class function ($p = 0.0037$), 8 remained in the same class, and 5 patients regressed. The total number of hospitalizations in the 12 month period prior to therapy was 28, which declined to 0 during the next month following initiation of therapy. One patient only had visited emergency department because of worsening HF. Baseline CO increased from 4.60 ± 1.92 L/min (mean \pm SD) to 5.0 ± 2.06 L/min ($p < 0.05$) and NT-proBNP decreased from 1900.56 ± 78.08 to 425.07 ± 57.8 pmol/l ($p < 0.05$) for the Nesiritide group and baseline CO increased from 4.32 ± 1.78 L/min (mean \pm SD) to 5.19 ± 2.06 L/min ($p < 0.05$) and NT-proBNP decreased from 2112.6 ± 83.5 to 327.12 ± 42.8 pmol/l ($p < 0.05$) for the Simdax group. Therapy was well tolerated by all patients. Symptomatic hypotension was not observed. We are going to follow up these patients for six months to assess their survival status and rehospitalization due to acutely decompensated heart failure. These results suggest that both Nesiritide and Levosimendan may have an important role in HF patients with acute decompensation on top of standard medical treatment, improving their quality of life. Additional studies are needed to determine the effect of these drugs on survival status and frequency of rehospitalisation.

Citation: European Journal of Heart Failure Supplements 2009; Vol. 8(2)

Date: Monday, June 1, 2009

Session Info: Clinical Poster Session III: Acute heart failure Natriuretic peptides & Prognosis (08:30–12:30)

Presentation Time: 8:30 AM

Room: Poster Zone - Clinical

[2009][890] NTproBNP and heart rate variability in the prognosis of heart failure

N. Stancheva, V. Jordanova, K. Bakardjieva, S. Tisheva. University Hospital Georgi Stranski, Pleven, Bulgaria

Introduction: Heart failure (HF) is associated with neurohumoral activation and autonomic dysfunction. The aim of this study was to evaluate the role of predischARGE heart rate variability (HRV) and N-terminal pro-brain natriuretic peptide (NTproBNP) as predictors of outcome in patients hospitalised for acutely decompensated chronic heart failure.

Methods: One hundred and twenty-seven patients with symptomatic HF ranging from II to IV NYHA functional class were included, 69 males (57.0%) with mean age 61.9 ± 8.4 years. The patients were consecutively hospitalized due to aggravated HF. On the day of discharge standard laboratory samples were obtained, echocardiography was performed and venous plasma for NTproBNP was collected. 24 hour Holter ECG was performed for 46 patients (38%) in the day of discharge ± 1 day with Cardiotens software. All the results were calculated automatically and before that artifacts had been deleted manually. The primary endpoint was defined as rehospitalization for aggravated HF in 6 month after discharge, more than 2 hospitalizations in 1 year or cardiac death.

Results: One hundred and twenty-one (95.3%) patients were followed for mean of 387 ± 117 days. Fifty-four (44.6%) of them reached at least one of the endpoints. At univariate analysis both NTproBNP (chi square = 32.93, $p < 0.0001$) and HRV (chi square = 32.93, $p < 0.0001$) proved to be significant predictors of outcome. NTpro-BNP proved to be an independent predictor of outcome in multivariate analysis as well while HRV did not. Kaplan-Meier survival curves showed a steep initial slope suggesting that the higher the NTproBNP level and the lower the HRV the worse the short-term prognosis in the three groups of patients divided by the NTproBNP concentration and HRV according to the nonparametric percentile method, NTproBNP > 800 pg/ml and HRV < 50 ms were associated with significantly worse outcome.

Conclusions: In hospitalized patients with HF plasma concentration of NTproBNP and HRV at discharge are predictive of outcome in HF.

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P1094

Effect of transfer from furosemide to torasemide on tolerability in patients with chronic heart failure NYHA II to IVS Tisheva¹, N Stancheva¹, V Hergedzieva², H Benov³, K Gospodinov¹, E Mekenyan¹

Background: The hypothesis was that torasemide, due to more predictable pharmacokinetics/ pharmacodynamics, induces greater improvements in functional and social limitation than furosemide and reduces the frequency of hospitalisations in patients with chronic heart failure (CHF). **Patients and methods:** Prospective, randomized, unblinded study in 196 patients with CHF (NYHA II-IV), treated with furosemide in the past 6 months who were all transferred to torasemide on top of their concomitant therapy. **Endpoints:** Clinical efficacy, safety, tolerability, hospitalisations for a period of 6 months.

Results: Clinical improvement was observed in both groups, but the trend to improve by at least one NYHA class was significant only in torasemide- (P=0.014), but not in furosemide-treated patients. There were no differences with regard to adverse events and hospitalisation due to CHF. Overall, tolerability (P=0.0001) and improvement in daily restrictions (P=0.0002) were significantly higher, number of mictions at 3, 6 and 12 h after diuretic intake (P<0.001 at all time points) and urgency to urinate (P<0.0001) significantly lower in torasemide versus furosemide-treated patients.

Conclusion: CHF patients treated with torasemide gain a higher benefit in quality of life than furosemide treated patients, due to torasemide's dual effect on both clinical status and social function.

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P1094

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P1095

Torasefide (Trifas) in clinical practice--own experienceN Stancheva¹, S Tisheva¹, V Hergedzieva², H Benov³, ST Dimov¹, KR Vassilev¹

Background: Loop diuretics potentially excrete water and electrolytes and therefore have been widely prescribed for the treatment of various kinds of edema for a long time. The potent diuretic action of loop diuretics, however, often causes hypokalemia, and therefore potassium sparing diuretics have also been supplied as a concomitant drug. Chronic heart failure (CHF) is the cause of significant morbimortality all over the world and its incidence and prevalence are increasing. Furosefide is the most commonly used loop diuretic. Torasefide is a loop diuretic belonging to the pyridine sulfonylurea class. It is a high-ceiling diuretic that has a longer half-life, longer duration of action and higher bioavailability compared to furosefide.

Methods: Demographic, clinical, and psychosocial data were collected by questionnaires and medical record review for 196 patients with HF (aged 64.1 ± 11 years, 56 % were male, 60% were in New York Heart Association class III/IV). Medication adherence was monitored objectively for 6 months. Cardiac event-free survival data were obtained by patient/family interview, hospital database, and death certificate review. A series of regression and Cox survival analyses were performed to determine whether medication adherence mediated the relationship between diuretic treatment and event-free survival.

Results: Cardiac event-free survival was worse in patients treated with furosefide than in patients treated with torasefide. Patients treated with furosefide were more likely to be nonadherent and 2 times more likely to experience an event than patients treated with torasefide ($P = .017$). Diuretic treatment with torasefide led to no change in the potassium levels with time. Diuretic treatment with torasefide was not a significant predictor of event-free survival after entering medication adherence in the model, demonstrating a mediation effect of adherence on the relationship of treatment with torasefide to survival.

Conclusion: Medication adherence mediated the relationship between treatment and event-free survival. It is important to design interventions to increase medication adherence. Torasefide has additional actions such as antialdosterone and vasodilatation effects. Thus, torasefide is recommended for CHF treatment instead of furosefide also because of its safety as far as diselectrolytemia is concerned.

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COMPARISON BETWEEN THE IMMUNOLOGICAL CHANGES IN ELASTIN, COLLAGEN AND ADVANCED GLYCATION ENDPRODUCTS TURNOVER IN HYPERTENSIVE PATIENTS WITH AND WITHOUT DIABETES MELLITUS

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Introduction

Atherosclerosis is characterized by development of atherosclerotic plaques, increased arterial stiffness and vascular aging. Arterial hypertension and diabetes mellitus are major risk factors for the earlier expression and progression of atherosclerosis. The major febrile proteins involved in the extracellular matrix of the vessels are elastin and collagen. In recent decades, immunological methods are used to determine the elastin and collagen degradation and their advanced glycation end products as a sign of vascular aging in high-risk subjects. The objective of the study was to compare the immunological markers – antielastin antibodies class IgG and IgM /AEAb IgG, AEAb IgM/, anticollagen antibodies class IgG and IgM /ACollIVAb IgG, ACollIVAb IgM/ and antiadvanced glycation end products antibodies class IgG and IgM /AGEsAb IgG, AGEsAb IgM/ in both groups.

Materials and methods

A study is conducted on 62 subjects with arterial hypertension without vascular complications divided into two groups - 30 subjects with diagnosed Diabetes Mellitus (DM) and 32 without.

Main objective

To compare the immunological markers – antielastin antibodies class IgG and IgM /AEAb IgG, AEAb IgM/, anticollagen antibodies class IgG and IgM /ACollIVAb IgG, ACollIVAb IgM/ and antiadvanced glycation end products antibodies class IgG and IgM /AGEsAb IgG, AGEsAb IgM/ in both groups.

Results

When comparing the levels of AEAb IgG /Fig. 1/ and AEAb IgM /Fig. 2/ between the two groups with and without diabetes, there was no statistically significant difference, respectively: 0.51 and 0.46, $p > 0.05$, and 0.29 and 0.34, $p > 0.05$.

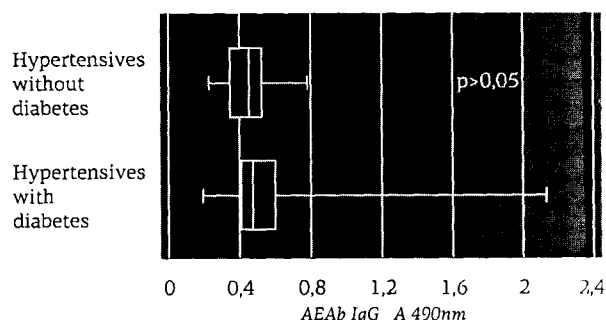


Fig. 1. Comparison of AEAb IgG levels in both groups

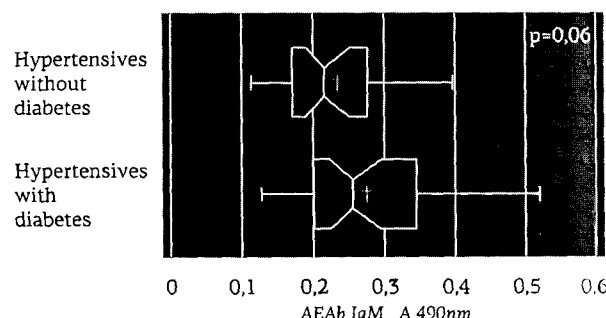


Fig. 2. Comparison of AEAb IgM levels in both groups

When comparing the levels of ACollIVAb IgG /Fig. 3/ and ACollIVAb IgM /Fig. 4/ in the two groups no statistically significant difference was found: respectively 0.39 and 0.40, $p > 0.05$; and 0.42 and 0.32, $p > 0.05$.

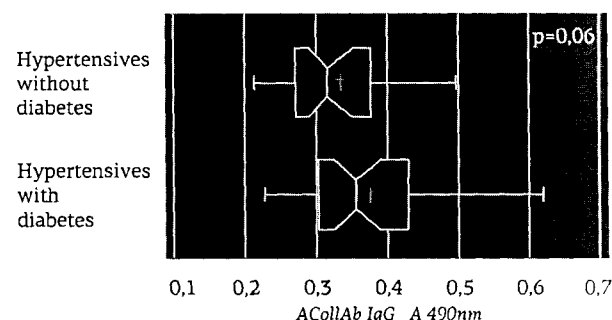


Fig. 3. Comparison of ACollIVAb IgG levels in both groups

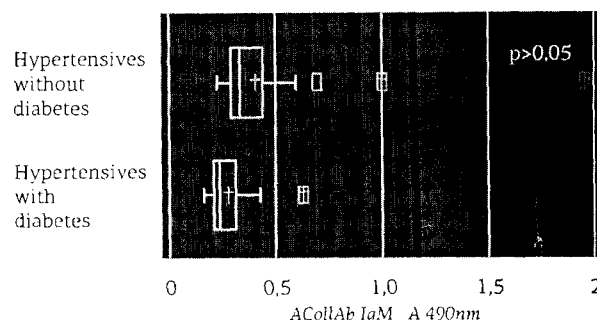


Fig. 4. Comparison of ACollIVAb IgM levels in both groups

When comparing AGEsAb IgG /Fig. 5/ and AGEsAb IgM /Fig. 6/ levels between the two hypertensive groups with and without diabetes, no statistically significant difference was found, respectively: 0.20 and 0.18, $p > 0.05$; and 0.46 and 0.43, $p > 0.05$.

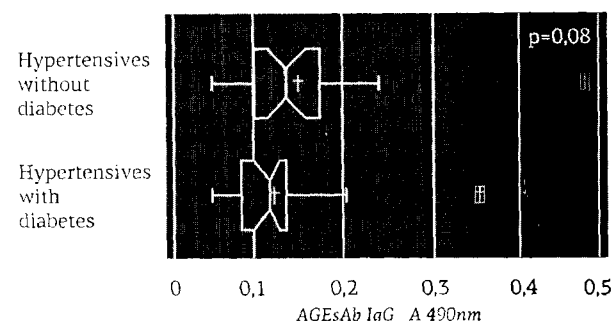


Fig. 5. Comparison of AGEsAb IgG levels in both groups

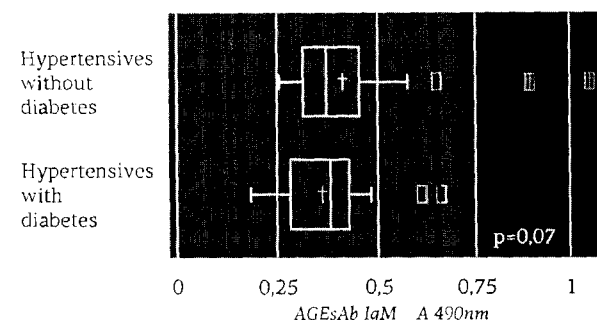


Fig. 6. Comparison of AGEsAb IgM levels in both groups

Conclusion

The identified changes in the immunological parameters of elastin, collagen and AGEs metabolism did not differ in subjects with arterial hypertension either with or without DM, which allows us to assume that the intensification of the turnover of the febrile components of the extracellular matrix starts with the onset of arterial hypertension and it is determined by insulin resistance, preceding diabetes mellitus which is a late complication when the changes in the vessel wall have already occurred.

Key words

Arterial hypertension, Diabetes Mellitus, vessel aging, elastin, collagen, AGEs antibodies

Comparisons of Pulse wave velocity levels between Behçet's Disease and control group.

Variables	Behcet's group (n:50)	Control group (n:20)	p value
LAEI(C1)(cm3-mmHg-1)	13,3±3,16	13,6±3,64	0,45
SAEI(C2)(cm3-mmHg-1)	5,2±2,43	6,01±2,6	0,21

LAE, (C1): large arterial elastisite index, SAE, (C2): small arterial elastisite index.

PP-134

Evaluation of Changes at Echocardiographic Parameters after Renal Transplantation at Patients with End Stage Renal Disease

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Introduction: Chronic renal failure (CRF) is characterize by chronic, progressive and irreversible loss of nephrons due to various diseases. The most common reason of death at end stage renal disease (ESRD) is cardiovascular (CV) complications. At this study, we aimed to evaluate the change at echocardiographic parameters after renal transplantation which is accepted as the best treatment modality for ESRD.

Method: Thirty four patients were included into the study voluntarily who applied to Akdeniz University, Faculty of Medicine, Organ Transplantation unit or nephrology outpatient unit, planned for renal transplantation from live donors, with definite operation dates. Echocardiographic measurements were performed preoperatively and at postoperative 6th month.

Findings: Left atrium (LA) was measured and in order to evaluate size and functions of left ventricle (LV), interventricular septal thickness (IVST), left ventricle end-diastolic diameter (LVEDD), left ventricle end-systolic diameter (LVESD), posterior wall thickness (PWT) were measured, ejection fraction (EF) was measured and compared preoperatively and at postoperative 6th month. There was an improvement at all parameters when preoperative and postoperative 6th month values were compared and there was statistical significance (Table 1.).

Conclusion: There was an statistically significant improvement at all parameters when preoperative and postoperative 6th month echocardiographic parameters were compared. We suggest that significant improvement at cardiac structure and functions contribute to decreasing postoperative mortality. Postoperative echocardiographic measurements of patients who underwent renal transplantation should be performed on a regular basis.

Table 1

Parameters	Preoperative mean±ss	Postoperative mean±ss	P value
LA (cm)	3,57±0,58	3,19±0,41	0,001
LVEDD (cm)	4,65±0,74	4,3,79±0,55	0,008
LVESD (cm)	3,10±0,66	26,35±0,43	0,001
IVST (cm)	1,17±0,22	1,08±0,21	0,001
PWT (cm)	1,13±0,20	1,07±0,13	0,007
EF (%)	62,35±8,06	70,38±0,73	0,001

Echocardiographic parameters

PP-135

Correlation between some Immunological Parameters Against Elastin and the Score Risk Chart

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Introduction: Atherosclerosis is a chronic, progressive disease that affects the inner layer of the large and medium arteries of the body. Number of risk factors, components of metabolic syndrome, contribute for its earlier manifestation and progression. The primary mechanism for avoiding the complications of the atherosclerotic process is an early detection of the vascular aging and prevention. So far the risk stratification is performed by the SCORE RISK CHART. Vascular aging is associated with accelerated turnover of the febrile protein elastin wich is the main component in the structure of the vessel wall. A constellation of markers are required for proper risk stratification and early assessment of the morphological vascular changes.

Objective: To determine the correlation between the levels of the immunological markers against elastin and the stratified risk by the SCORE chart.

Methods: A study is conducted on 104 subjects. All subjects were stratified according to the SCORE risk chart into three groups: high, moderate and low risk. To determine the least significant differences (LSD) between the groups we used the method of Fisher.

Results: When computing the mean levels of AEAb IgG in the three groups we determined a statistically significant difference at 95% confidence interval between the group with low and high risk (LSD=0,372, p=0,05), between the group with low and intermediate risk (LSD=0,147, p=0,05) between the group with intermediate and high risk (LSD=0,225, p=0,05), p=0,000. No such correlation could be determined between the levels of AEAb IgM in the three risk groups.

Conclusion: AEAb IgM are an acute phase antibodies associated with the initiation of the process of elastin turnover. Vascular aging is a long process, which is accompanied by high levels of AEAb IgG. The predictive value of the SCORE chart and AEAb IgG is comparable – the higher the turnover of febrile protein, the higher the cardiovascular risk of the patient as assessed by the SCORE risk chart. Therefore, the high vascular risk is preceded by a more intensive process of elastin turnover.

PP-136

Single Coronary Artery in 215140 Patients Undergoing Coronary Angiography

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Objective: The aim of our study is to determine in the incidence of single coronary arteries.

Background: Single coronary artery (SCA) is a rarely seen coronary anomaly in which right coronary artery and left main coronary artery arise from single aortic sinus. It is detected usually during routine coronary angiography (CAG) or found incidentally in postmortem examination. It has an incidence of 0.014-0.066 % in general population. Most of these anomalies are clinically nonsignificant however some anomalies can be presented by angina, dyspnea, syncope, acute myocardial infarction and sudden cardiac death. Although SCA has a benign course most of the time and its clinical significance is unknown in some autopsy studies it was shown to be related to sudden cardiac death.

Methods: SCA patients who detected among 215140 CAG performed between 1998 and 2013 years in SANKO Hospital were included in our study. Patients with SCA were selected retrospectively from coronary anomaly files created between these years and the incidence and clinical features of SCA patients were determined. The classification of CAG was made according to the two different classifications defined by Smith and Lipton and colleagues. The Smith's system consists of three groups according to the course of the coronary arteries involved. Lipton and colleagues classified the coronary anomalies as R or L according to the origination of abnormal coronary artery either from right or left coronary sinus. 39 (58%) patients had experienced exertional angina and six (9%) patients had exertional dyspnea, three (4%) had syncope, four (6%) had palpitations, six (9%) had exertional angina and palpitations and six (9%) had exertional angina and syncope. Three of the patients were admitted with myocardial infarction, 26 (68%) patients had pathologic ST-T changes on ECG. Treadmill exercise test was performed in 56 patients and 34 (61%) of 56 patients had positive results.

Results: A total number of 215140 patients who was undergone routine CAG were included in the study and SCA was detected in 97 (0,051%) patients. There were six (9%) type R-I, 23 (24%) type R-II, 10 (15%) type R-III, 16 (24%) type L-I and 12 (18%) type L-II patients according to the angiographic classification.

Conclusions: Coronary artery origin anomalies are rarely seen during routine cardiac catheterization and the incidence is 0.2-1.3% in angiographic series and 0.3% in autopsy series. In our data set including 215140 coronary angiographies of 15 years, there are 67 patients with SCA and the incidence is 0.31%. Coronary artery anomalies are the second most common cause of the sudden cardiac death in young athletes. Early diagnosis and treatment are crucial in order to lower the risk of sudden cardiac death in this population (especially sportsmen) with higher sudden cardiac death risk.



1 / 20 INCIDENCE AND PECULIARITIES OF ARTERIAL HYPERTENSION IN PATIENTS WITH PSORIASIS VULGARIS

N. Stancheva, K. Gospodinov, E. Mekenyan, D. Gospodinov, S. Tishewa
Pleven-BULGARIA

1 / 21 SMOKING AND HYPERTENSION ARE MAJOR CONTRIBUTORS TO CAROTIDOVASCULAR DISEASES IN HUNGARY

B. Sonkodi¹, G. Fodor², G. Abraham³, P. Legrady¹, A. Palinkas¹, J. Barta¹, S. Sonkodi¹
¹ Szeged-HUNGARY, ² Ottawa-CANADA, ³ Hodmezovasarhely HUNGARY

1 / 22 PREDICTORS OF 90-DAY READMISSION AFTER HYPERTENSIVE CRISIS IN PATIENTS WITH HYPERTENSIVE CRISIS

E. Shavarova, I. Darmaeva, Z. Kobalava
Moscow-RUSSIA

1 / 23 REGISTRY OF STUDYING THE TREATMENT OF HYPERTENSIVE CRISES

I. Darmaeva, E. Shavarova, Z. Kobalava
Moscow-RUSSIA

1 / 24 QUALITY OF LIFE IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ARTERIAL HYPERTENSION

V. Pyankov, Y. Chuyasova
Kirov-RUSSIA

1 / 25 CARDIOMETABOLIC RISK FACTORS PREVALENCE IN URBAN AND RURAL POPULATION OF MONGOLIA

K. Protasov¹, T. Myagmarsuren²
¹ Irkutsk-RUSSIA, ² Ulaanbaatar-MONGOLIA

1 / 26 SEX-SPECIFIC PREDICTORS OF THE PREHYPERTENSIVE OR WHITE COAT EFFECTS PROGRESSION: COMMUNITY-BASED COHORT OF A WEST-ASIAN POPULATION

R. Mohebi, B. Yazdani, M. Bozorgmanesh, F. Hadaegh, F. Azizi, H. Ghaeishian
Tehran-IRAN

1 / 27 EDUCATION AND CARDIOVASCULAR RISK RELATION IN "BLACK" POPULATION

I. Marotta, M. Liccardo, G. Albano, L.A. Ferrara
Naples-ITALY

1 / 28 NATIONWIDE COMPREHENSIVE HEALTH SYSTEMS IMPROVEMENT PROJECT 2010-2020 (NACOHESP-HU) MAIN RESULTS OF THE FIRST TWO YEARS

I. Kiss, I. Barna, T. Daiki, G. Dankovics, E. Kekes
Budapest-HUNGARY

1 / 29 THE SWEDISH PRIMARY CARE RESEARCH

J. Hasselstrom¹, R. Zarrinkoub², T. Kahan¹, K. Manhem³, L. F. L. L. L.
¹ Stockholm, ² Skovde, ³ Got

1 / 30 CARDIOVASCULAR DEPARTMENTS

M. Pena Seijo¹, M. Rodríguez L. Valle Feijoo², B. Valle Feijoo³, M. Núñez Fernández², J.A. L. L. L.
¹ Santiago de Compostela, ² Pontevedra-SPAIN

1 / 31 COMPARISON OF CARDIOVASCULAR RISK FACTORS

C. Diaconu, E. Badila, G. Opris, N. Carstea, A. Kostov, A. Danilov
Bucharest-ROMANIA

1 / 32 NATIONWIDE COHORT STUDY (NACOHESP-HU)

I. Barna, T. Daiki, G. Dankovics
Budapest-HUNGARY

1 / 33 THE PROFILE OF A PATIENT WITH HYPERTENSION

E. Tintea, E. Badila, C. Diaconu, N. Carstea, A. Kostov, A. Danilov
Bucharest-ROMANIA

1 / 34 DIABETES MELLITUS AND UNAWARE HYPERTENSIVE PATIENTS

B. Altun¹, T. Arinsoy¹, K. Altun², G. Suleymanlar³
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1 / 35 HYPERTENSION AND CHRONIC HEMODIALYSIS: II

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Title : Incidence and peculiarities of arterial hypertension in patients with psoriasis vulgaris.

Topic : 01.00 - Prevention and Epidemiology

Category : Not Member of EACPR

Option : Young Investigator Award (YIA)

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Introduction: Psoriasis is a chronic inflammatory skin disease, mediated by the immune system, which attacks 2-3% of the population and is connected with an increased cardiovascular risk profile. **Objective:** A survey of the type case-control was carried out. The main aim of the study is an analysis of the frequency, heaviness and degree of control over arterial hypertension and controls from Pleven region. **Materials and methods:** A case-control or cohort study was conducted of the following groups: patients with moderate or severe psoriasis who need systemic therapy (n=103), control group of comparable age and sex without psoriasis (n=101). Blood pressure was measured according to the recommendations of the World Health Organization (WHO) after a ten-minute rest in a sitting position with the cuff put on the arm. A standard manual sphygmomanometer was used. Three measurements were made with 2 minute interval between them. The average value was taken as referent. Measurements were made on both hands, the referent value being the highest value. Hypertensive were considered subjects with systolic blood pressure (SBP) ≥ 130 mmHg, diastolic blood pressure (DBP) ≥ 85 mmHg, or treatment for previously diagnosed hypertension. We examined the mean SBP, DBP, and pulse blood pressure (PBP) in the psoriasis group and the control group. These parameters of the blood pressure were analyzed in the studied groups. **Results:** An important result is a statistically significant increase in the pulse pressure of patients with psoriasis. It is known that pulse pressure is an important prognostic indicator for upcoming cerebrovascular accidents, especially with values above 50 mmHg. In this study the average PBP of subjects with psoriasis was 54 mm Hg. This fact allows us to assume that in psoriatics the rigidity of the vascular wall is higher hence the risk for developing cerebrovascular accidents is greater. **Conclusion:** An extremely high frequency of arterial hypertension was determined both in the studied group and in the control one. With the advance of age, the severity of arterial hypertension increases, and the portion of patients, who manage to control their arterial pressure decreases. The young psoriatics do control more frequently their arterial blood pressure.

1. IDENTIFICATION OF THE PERSON WHO LOANED
 2. A REASONABLE LOSS OF WEIGHT AND/OR
 3. EXHAUSTION OF THE PERSON WHO LOANED

DOES HYPERTENSIVE RETINOPATHY GRADES
SHOW ATHEROSCLEROSIS WHICH DETERMINED
BY PULSE WAVE VELOCITY?

RELATIONSHIP BETWEEN APOE GENE
POLYMORPHISM AND SEVERITY OF CORONARY
ARTERY DISEASE DETERMINED BY GENIUM
SCORE

PREVALENCE AND TRENDS IN ATRIAL FIBRILLATION AMONG PATIENTS WITH ARTERIAL HYPERTENSION OUR EXPERIENCE

Mekenyan E., N. Stancheva, K. Gospodinov, T. Chakalova, S. Tisheva
Clinic of Cardiology and Rheumatology "Prof. K. Chichovski "

Arterial hypertension (AH) in patients over age of 18 is defined as systolic blood pressure equal to or higher than 140 mmHg and/or diastolic blood pressure equal to or higher than 90 mmHg or identified as elevated in patients with multiple previous measurements taking antihypertensives drugs. (1).

Depending on the etiology, hypertension is primary (essential) and secondary - in which the elevated blood pressure is due to another disease: endocrinological, renal, neurological and others. The development of essential hypertension is the result of the interaction of environmental factors, lifestyle and genetic predisposition. The long evolution of hypertension leads to a number of pathological changes in both small arteries and arteries of medium and large caliber. This leads to an increased peripheral vascular resistance with subsequent damage to other organs and systems. The main target organs are the brain, heart and kidney. Increased peripheral vascular resistance leads to an increased preload which increases left ventricular stress. The enddiastolic pressure of the left ventricle increases, leading to a haemodynamically significant stress to the left atrium. Hypertension is associated with early and rapid progressive atrial remodeling and atrial fibrosis, which is a morphological prerequisite for the manifestation of atrial fibrillation (2),(3).

A survey on the distribution of atrial fibrillation (AF) in patients with essential hypertension who were treated at Department of Cardiology and Rheumatology Prof. K. Chichovski "MU Plevan for the period 01-01, 2010 / 30-06, 2010, was conducted.

Total number of patients - 954, of whom 918 /96% were diagnosed with hypertension.

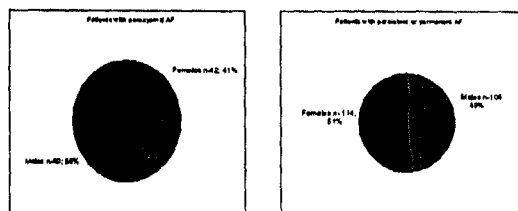
AF classification:

If a first detected episode of AF self-terminates in less than 7 days and then another episode begins later on, the AF is called *paroxysmal AF*. Although patients in this category have episodes lasting up to 7 days, in most cases of paroxysmal AF the episodes will self-terminate in less than 24 hours. If instead the episode lasts for more than 7 days, it is unlikely to self-terminate and it is called *persistent AF*. In this case, the episode may be terminated by cardioversion. If cardioversion is unsuccessful or it is not attempted, and the episode is ongoing for a long time (e.g. a year or more), the patient's AF is called *permanent* (4).

Of the total number of patients with atrial fibrillation (AF) n=302 with paroxysmal AF were n=102 (31%) and n=222 (69%) with persistent or permanent AF.

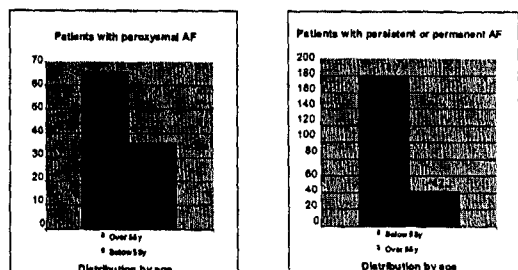
Distribution by gender:

Among patients with paroxysmal AF 60 are men (59%) and among patients with persistent or permanent AF 108 are men (49%).

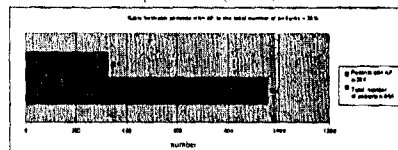


Distribution by age:

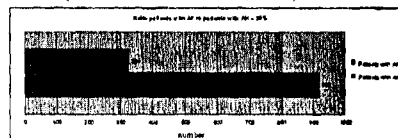
From the patients with paroxysmal AF 66 are over 55 years of age (65%) and 36 are below 55 years of age (35%).
From the patients with permanent or persistent AF 180 are over 55 years of age (81%) and 42 are below 55 years of age (19%).



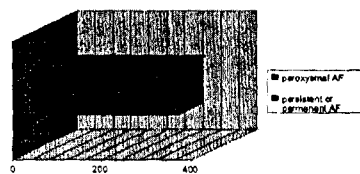
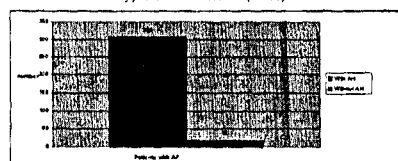
Of the total number of patients 34% (n = 324) were with atrial fibrillation.



From the patients with atrial fibrillation (n = 324), with AH were 306 (94.4%)

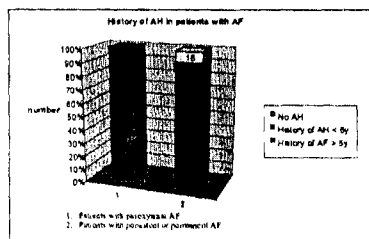


From the patients with atrial fibrillation (n = 324), with AH were 306 (94.4%) and those without hypertension were 18 (5.6%).



The mean age of patients with paroxysmal AF is 59.5y.
The mean age of patients with persistent or permanent AF is 71.8y.

From the total number of patients with paroxysmal AF 54 (53%) have over 5 year duration of AH and 48 (47%) have less than 5 year duration of AH. From the total number of patients with persistent or permanent AF 174 (78%) have over 5 year duration of AH, 30 (13%) have less than 5 years of duration of AH and 18 (9%) have no history and physical data for AH.



Conclusions:

The arterial hypertension is a major predisposing factor for the development of atrial fibrillation.
Almost all patients with atrial fibrillation are hypertensive. Even in the early stages of the development of hypertension there is a degree of remodeling and fibrosis of the atrium, which is a contributing factor to the development of atrial fibrillation. In young hypertensive patients, when atrial fibrillation occurs, the conversion to sinus rhythm is easier.

COLLAGEN IMMUNOLOGICAL CHANGES - A MARKER OF EARLY VESSEL AGING IN PREHYPERTENSIVE PATIENTS WITH METABOLIC SYNDROME

N. Stancheva¹, E. Mekenyan¹, K. Gospodinov¹, S. Tisheva¹

Background

Metabolic syndrome is associated with early vessel aging, characterized by changes in the vascular wall elasticity. The fibril proteins elastin and collagen occupy an important place in the structure of the vascular wall, and the hemodynamic properties of the vessels are directly dependent on the composition and organization of the extracellular matrix

Aim

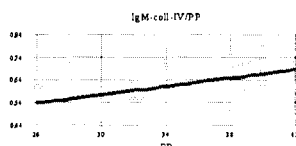
To evaluate the immunological parameters of collagen metabolism in subjects with familial predisposition for hypertension with high normal blood pressure and metabolic syndrome

Methods

A "case-control" study is conducted on 127 persons, 36 of them are prehypertensive with metabolic syndrome. The methods of the study are based on the enzyme-linked immunosorbent assay for the detection of specific antibodies and the degradation products in the serum, BP measurement, statistical methods

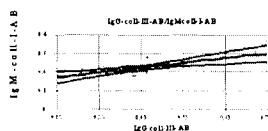
Results

1. A weak linear relationship was detected between the pulse pressure / PP / at baseline and IgM-coll-IV-group antibodies in prehypertensive group $y = 0.294 \times 0.009$; $r = 0.19$; $p = 0.02$.



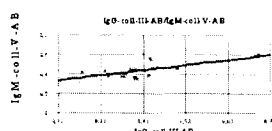
Relationship between the pulse pressure / PP / and IgM-coll-IV-group antibodies

2. Between IgG-coll-III and IgM-coll-I-antibodies anticollagenic antibodies a strong correlation was detected - $y = 0.220 + 0.522 x$; $r = 0.90$; $p = 0.001$



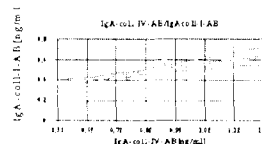
Relationship between IgG-coll-III and IgM-coll-I-antibodies anticollagenic antibodies

3. Also a strong linear relationship is established between the quantities of IgG-anticollagen-III antibodies and IgM-anticollagen-tipV - antibodies - $y = 0.217 + 515 x$; $r = 0.820$; $p = 0.002$. This relationship demonstrates that IgG - antibodies against collagen type III form in the initial stages of hypertension and there is a relationship between their levels and those against collagen type V



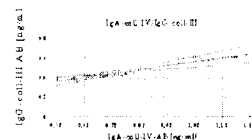
Relationship between the quantities of IgG-anticollagen-III antibodies and IgM-anticollagen-typeV - antibodies

4. A significant relationship was established between IgA-collagen IV-and IgA-collagen type-I antibodies: $y = 0.157 \times 0.395$; $r = 0.525$; $p = 0.02$



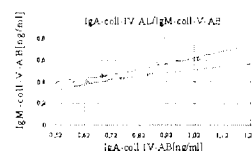
Relationship between IgA-collagen IV-and IgA-collagen type-I antibodies

5. Highly correlative relationship was established between the exchange of IgA-coll-IV and IgG-coll-III-antibody $y = 0.158 + 0.396 x$; $r = 0.90$; $p = 0.0001$



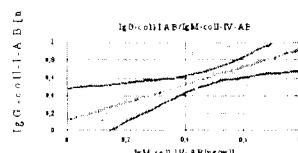
Relationship between IgA-coll-IV and IgG-coll-III-antibody

6. Strong correlation was also found between IgA-coll-IV and IgM-coll-V-antibody $y = 0.145 + 0.41 x$; $r = 0.9$; $p = 0.0001$



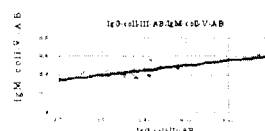
Relationship between IgA-coll-IV and IgM-coll-V-antibody

7. Significant linear relationship was found between the levels of IgG-coll-I-antibodies and IgM-coll-IV-anti-bodies: $y = 0.264 + 0.864 x$; $r = 0.612$; $p = 0.0007$.



Relationship between the levels of IgG-coll-I-antibodies and IgM-coll-IV-anti-bodies

8. Strong linear correlation was also found between the levels of IgM-coll-V and IgG-coll-III antibody: $y = 0.119 \times 1.012$; $r = 0.693$; $p = 0.0014$.



Relationship between the levels of IgM-coll-V and IgG-coll-III antibody

Conclusions

In prehypertensive patients with metabolic syndrome the collagen turnover of IgG-class type IV collagen is significantly intensified compared to healthy subjects. This occurs even before the blood pressure values reach the levels corresponding to borderline arterial hypertension.

EFFECT OF METABOLIC SYNDROME IN PREHYPERTENSIVE PATIENTS ON IMMUNOLOGICAL CHANGES IN ELASTIN METABOLISM

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Background

Metabolic syndrome, characterized with hypertension, increased insulin resistance, atherogenic dyslipidemia, central type obesity, is associated with early vessel aging, characterized by changes in the vascular wall elasticity. The fibril proteins elastin and collagen occupy an important place in the structure of the vascular wall, and the hemodynamic properties of the vessels are directly dependent on the composition and organization of the extracellular matrix.

Objective

The aim of the study is to evaluate the immunological parameters of elastin metabolism in subjects with familial predisposition for hypertension with high normal blood pressure and metabolic syndrome compared to those without metabolic syndrome.

Materials and Methods

A case-control study is conducted on 127 persons, of which 43 are family burdened for hypertension, 36 of them are prehypertensive with metabolic syndrome - 14 males and 22 females. Enzyme-linked immunosorbent assay /ELISA/ was used for the detection of specific antibodies and the degradation products in the serum.

Results

An excess of EDP in the prehypertensive persons compared to the control group was established ($F = 7,31$; $p < 0,01$). The levels of the two indicators of elastin degradation - elastin degradation peptides and antibodies antielastinovi are presented in table.1

	Groups	n	EDP ng/ml/ $\bar{X} \pm SD$	F	p
Beginning	Prehypertensive persons	36	$0,431 \pm 0,061$	7,31	0,01
	Controls	20	$0,233 \pm 0,025$		
One year follow up	Prehypertensive persons	36	$0,619 \pm 0,043$	9,47	0,01
	Controls	20	$0,215 \pm 0,037$		

Table.1 - Elastin degradation peptides in prehypertensive persons and controls in the beginning and after one year follow up

The tests conducted out by ELISA did not show statistically significant differences ($P > 0,05$) with respect to antielastin antibodies class IgA, IgG and IgM in the prehypertensive and controls. The levels of the antibodies are presented in table.2

Groups	n	IgG $\bar{X} \pm SD$	IgM $\bar{X} \pm SD$	IgA $\bar{X} \pm SD$
Prehypertensive persons	36	$0,597 \pm 0,056$	$0,695 \pm 0,051$	$1,016 \pm 0,129$
Controls	20	$0,377 \pm 0,093$	$0,0852 \pm 0,177$	$0,856 \pm 0,157$
F		1,19	2,67	2,29
p		$> 0,05$	$> 0,05$	$> 0,05$

Table.2 - Levels of antielastin antibodies in the prehypertensive persons and controls

Levels of antibodies against glycated elastin in prehypertensive persons and controls were not significantly different. The levels of the antibodies are presented in table.3

Groups	n	AGEs $\bar{X} \pm SD$
Prehypertensive persons	36	$0,303 \pm 0,035$
Controls	20	$0,334 \pm 0,023$
F		0,54
p		$> 0,05$

Table.3 - Antibodies against advanced glycation end products in the prehypertensive persons and controls

Conclusions

In prehypertensive persons with metabolic syndrome significantly increased amounts of elastin degradation peptides was discovered - sign of accelerated elastolysis.

Prasugrel 9 (9,2%): 0 – нонреспондери, 66,7% (6) са хиперреспондери, 3-ма (33,3%) са терапевтичен прозорец средна площ под кривата $7,44 \pm 2,4$.

След първото изследване се направи промяна в терапията на пациентите, намиращи се извън терапевтичния прозорец.

При изследването на тромбоцитната агрегация на 30-ия ден се установи следното разпределение:

От 56 хиперреспондери след модифициране на терапията са проследени 38: 21 остават със свръхпотиснат тромбоцитен отговор, 16 влизат в желания терапевтичен прозорец и 1 става нонреспондент. При анализ по отделните видове P2Y₁₂ антагонисти се установи следното:

	Хиперреспондери	Sweet point	Нонреспондери	Общо
Clopidogrel	9	11	1	21
Ticagrelor	9	2	0	11
Prasugrel	3	3	0	6
Общо	21	16	1	38

От 34 пациенти в терапевтичен прозорец без промяна в терапията са проследени 19 – 7 стават хиперреспондери, 11 остават с оптимално потискане, а 1 пациент става нонреспондент. При анализ по отделните видове антиагреганти се установи следното:

	Хиперреспондери	Sweet point	Нонреспондери	Общо
Clopidogrel	5	4	1	10
Ticagrelor	1	6	0	7
Prasugrel	1	1	0	2
Общо	7	11	1	19

От 7 нонреспондери, всички в групата на пациенти първоначално третирани с Clopidogrel и в последствие преминали на по-новите антиагреганти, са проследени 6 пациенти. Петима – 4 на тикагрелор и един на празугрел, преминават в групата на хиперреспондентите и един преминава в терапевтичния прозорец.

Със статистическа значимост се установи по-голямо потискане на тромбоцитната агрегация с новите антиагреганти спрямо клопидогрел (Ticagrelor $p = 0,014$ и Prasugrel $p = 0,027$), както и висока честота на хиперреспонденти при употребата и на трите антиагреганти в обичайни дози.

При проследяването на пациентите се установи много голяма вариационност в потискането на тромбоцитите при пациенти, лекувани с Clopidogrel, като дори при първоначално установено оптимално потискане, при проследяването се установяват резултати при пациентите като в посока хиперреспондент, така и в посока нонреспондент. При пациентите, третирани с новите антиагреганти с оптимално потискане, се установи много ниска вариационност, но за сметка на това преминаването от свръх потискане към стойности в терапевтичния прозорец при намаляване на дозата се оказва невъзможно в голям процент от случаите.

Заклучение. От получените данни става ясно, че с навлизането на новите антиагреганти проблема с резистентността към Clopidogrel е разрешен. Набелязва се тенденция за по-голяма честота на хиперреспондентите при пациенти с ОКС и стандартна дозировка и на трите антиагреганти. Това от своя страна би могло да послужи като предиктор за установяване на пациентите с по-голям хеморагичен риск, който може да се намали с корекция в дозата на прилагания антиагрегант.

АРИТМИИ И ПЕЙС

03.10.2014 г., 12,00 – 13,00 ч.

Модератори: проф. Т. Донева, доц. д-р Ч. Шапсанов, доц. М. Токмакова

П-3.1. АНАЛИЗ ВЪРХУ РАЗПРОСТРАНЕНИЕТО НА МЕТАБОЛИТНИЯ СИНДРОМ ПРИ ПАЦИЕНТИ С ПРЕДСЪРДНО МЪЖДЕНЕ В ПЛЕВЕНСКА ОБЛАСТ

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Цел. Да се анализира разпространението на метаболитния синдром сред пациенти с предсърдно мъждене в Плевенска област

Материал и методи. Проучване е направено сред 70 пациенти, които са приети в Първа клиника по кардиология, УМБАЛ „Д-р Георги Странски“ – Плевен, България между 1 април и 30 юни 2014 г. с документирано предсърдно мъждене. Пациентите са проучени относно разпространението на артериална хипертония, захарен диабет, дислипидемия и затлъстяване. Анализирани са данни от медицинската документация при хоспитализацията и преди това, и амбулаторен холтер за артериално

налягане. Проучени са пре- и постпрандиалните нива на кръвната захар, липидния профил, обиколката на талията и лечението на артериалната хипертония, захарния диабет и дислипидемията. Пациентите са класифицирани с метаболитен синдром по критериите на NCEP ATP III. Приложен е статистически пакет SPSS v16.0.1.

Резултати. От изследваната популация с предсърдно мъждене 36 (51%) са с метаболитен синдром, от тях 16 (44%) са мъже, а 20 (64%) са жени. От изследваната група 18 (50%) пациенти са с метаболитен синдром и пароксизмално предсърдно мъждене, а 18 (50%) са с метаболитен синдром и перманентно предсърдно мъждене. 55 (78%) са с талия над приетия критерий, от тях 30 (77%) са мъже и 25 (81%) – жени. 65 (93%) пациенти са с артериална хипертония и предсърдно мъждене, от тях 37 (95%) са мъже, а 28 (90%) са жени.

Обсъждане. Метаболитният синдром е широко разпространен при пациентите с предсърдно мъждене в нашата проучвана популация. Между всеки от компонентите на метаболитния синдром и предсърдното мъждене доказваме тясна корелационна връзка. Тази връзка на предсърдното мъждене с метаболитния синдром не е само поради ефекта на отделните компоненти, но и поради кумулативния им ефект. Съобщението има предварителен характер.

П-2.12. ПРОГНОЗА ПРИ БОЛНИ СЪС STEMI В ЗАВИСИМОСТ ОТ СРОКА НА ИНТЕРВЕНЦИОНАЛНАТА РЕВАСКУЛАРИЗАЦИЯ

В. Мура, Н. Пенков, Д. Велевски, Г. Кирилова,
М. Златанова, Д. Димов и Й. Дичкова

Български кардиологичен институт, СБАЛК – Варна

Целта на проучването е да проверим 6-месечната прогноза – леталитет при болни със STEMI в зависимост от срока на извършената интервенционална реваскуларизация след началото на инфарктната болка.

Материал и методи. Проучени са 300 последователни болни, постъпили в СБАЛК – Варна, за периода от 01.01.2011 г. до 01.01.2014 г. Средната възраст на болните е 62.9 ± 11.2 (32-94) год., от които 212 са мъже (70.6%) и 88 – жени (29.4%). Болните са разпределени в 4 групи в зависимост от срока на извършената реваскуларизация от началото на инфарктната болка:

I група – реваскуларизирани до 3-тия час – 81 болни (61 мъже и 20 жени) на средна възраст 62.50 год.

II група – реваскуларизирани между 3-тия и 6-ия час – 88 болни (65 мъже и 23 жени) на средна възраст 63.03 год.

III група – реваскуларизирани между 6-ия и 12-ия час – 66 болни (42 мъже и 24 жени) на средна възраст 63.53 год.

IV група – реваскуларизирани между 12-ия и 24-ия час – 68 болни (47 мъже и 21 жени) на средна възраст 64.88 год.

При всички болни е извършена СКАГ по метода на Seldinger (с радиален достъп – 78 болни (26%), и с феморален достъп – 222 болни (74%), с последваща реваскуларизация на виновната за инфаркта коронарна артерия. Преди СКАГ непосредствено след реваскуларизацията, преди дехоспитализацията и на 6-ия месец след реваскуларизацията левокамерната глобална систолна функция е оценявана ехокардиографски посредством левокамерната фракция на изтласкване (ФИ), определяна по метода на Simpson.

Резултати. Оформя се тенденция за по-малък леталитет до края на 6-ия месец от наблюдението при болните, реваскуларизирани рано (от I и II гр.), и по-висок леталитет при болните от групите с по-късна реваскуларизация (III и IV гр.). Установява се обратна корелация между ФИ и срока на реваскуларизация след началото на инфаркта, както и по-голяма смъртност при болните с по-лоша левокамерна функция.

Заключение. Рано хоспитализираните и реваскуларизирани болни имат достоверно по-добра левокамерна систолна функция и леталитетът при тях е по-нисък, а късно реваскуларизирани болни са с по-лоша левокамерна систолна функция и по-голяма смъртност за 6-месечния период на наблюдение.

П-2.13. РАЗПРОСТРАНЕНИЕ НА ХИПЕРТОНИЯ И ЗАХАРЕН ДИАБЕТ ПРИ ПАЦИЕНТИ С ИСКЕМИЧНА БОЛЕСТ НА СЪРЦЕТО – СРАВНИТЕЛЕН АНАЛИЗ МЕЖДУ ИНДИЙСКАТА И БЪЛГАРСКАТА ПОПУЛАЦИЯ

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Цел. Да се анализират и сравняват разпространението на хипертония и захарния диабет при пациенти с искемична болест на сърцето в България и Индия.

Материал и методи. Проучването е проведено сред 476 пациенти, които са приети в Първа клиника по кардиология, УМБАЛ „Д-р Георги Странски“ – Плевен, България, между 1.01.2012 и 31.12.2013 г. и 496 пациенти, приети в Кардиологично отделение Lourdes Heart Institute и Neuro Center – Кочин, Керала, Индия, през периода от 1.06.2012 г. и 31.12.2012 г. с остър коронарен синдром, ангиографски или електрокардиографски доказателства за искемична болест на сърцето. Пациентите са проучени за хипертония, захарен диабет и нарушен глюкозен толеранс. Обект на анализ са анамнезата на пациентите, стари медицински документи, клиничен преглед, включително амбулаторно проследяване на кръвното налягане и лабораторни резултати, в това число HbA1c, стойности на кръвната захар на гладно и след хранене, както и историята на лечение за хипертония и захарен диабет.

Резултати. Проучването показва, че 39% от индийските пациенти с искемична болест на сърцето са имали хипертония, докато същият процент сред българската популация е 74 ($p < 0.01$). Разпространението на прехипертонията сред индийските пациенти е 14%, а сред българските пациенти – 18% ($p > 0.01$). Честотата на захарния диабет е 57% сред индийските пациенти, при 34% сред българските ($p > 0.01$). Честотата на нарушен глюкозен толеранс сред индийските пациенти е 21%, а сред българските – 19% ($p < 0.01$).

Заключение. Разпространението и честотата на ИБС, заедно с разпространението на рисковите фактори, варира значително в различните региони на света. Ранното откриване и контрол на рисковите фактори трябва да се разглеждат като превантивни мерки за ИБС в двете популации. Рентабилната превантивна стратегия трябва да се съсредоточи вниманието си върху ограничаване разпространението на рисковите фактори, както при отделния индивид, така и сред населението като цяло.

П-5.6. АСОЦИАЦИЯ НА МЕТАБОЛИТНИЯ СИНДРОМ И ВИСОКОСЕНЗИТИВНИЯ С – РЕАКТИВЕН ПРОТЕИН

Г. Найденова

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Цел. Да се изследва връзката между компонентите на метаболитния синдром (МетС) и hs-CRP, като рискови фактори за сърдечно-съдови заболявания (ССЗ) сред клинично здрави хора.

Материал и методи. Изследвани са 500 клинично здрави лица от Плевенския регион (201 мъже и 299 жени). Селектирани са участниците с метаболитен синдром. Определени са антропометрични и хематологични показатели.

Резултати. Умерено нарастване на hs-CRP при мъжете е свързано с 2,41 пъти повишаване на риска от МетС (OR = 2,41, 95% CI: 1,36-4,33). При умерено нарастване на hs-CRP при жените се наблюдава 5,03 пъти нарастване на риска от МетС (OR = 5,03, 95% CI: 2,23-11,13).

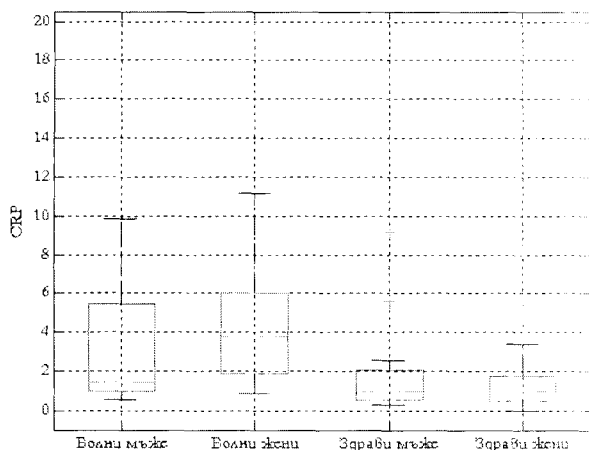
В таблица 1 са показани резултатите от прилагането на многокомпонентен тест за оценка на разликата между средните стойности на групите.

Таблица 1

Първа група	Втора група	Долна граница на доверителен интервал	Разлика между средните стойности на двете групи	Горна граница на доверителен интервал
С МетС	Без МетС	1,49	2,61	3,73

Определен е доверителния интервал с 95% вероятност, който е 1,49+3,73. Получените резултати показват, че разликите са значими и с голяма вероятност може да се твърди, че има връзка между нивото на hs-CRP и вероятността за наличие на МетС.

На фиг. 1 е показана графиката на квантилите на измерените стойности за hs-CRP в mg/l на четири групи – мъже с МетС, жени с МетС, мъже без МетС и жени без МетС.



Фиг. 1. Квантилите на измерените стойности за hs-CRP в mg/l на четири групи – мъже с МетС, жени с МетС, мъже без МетС и жени без МетС

Заклучение. Проучването доказва позитивна корелация на hs-CRP с МетС. Повишението на нивата на hs-CRP са свързани с нарастване на вероятността за нейната поява.

В клиничната практика hs-CRP може да се използва като индикатор за определяне на риска от възникване на МетС и бъдещи сърдечно-съдови усложнения.

При покачване на hs-CRP над 3 mg/L в сравнение със стойности < 1,0 mg/L, рискът от МетС нараства 4,85 пъти при мъже и 10,68 пъти при жени.

П-5.7. РАЗПРОСТРАНЕНИЕТО НА ТЮТЮНОПУШЕНЕТО ПРИ ПАЦИЕНТИ С ИСХЕМИЧНА БОЛЕСТ НА СЪРЦЕТО В ПЛЕВЕНСКА ОБЛАСТ

К. Джеймс, К. Господинов, И. Герчев, Д. Якова, Н. Станчева, М. Христов, Ш. Охри и С. Тишева

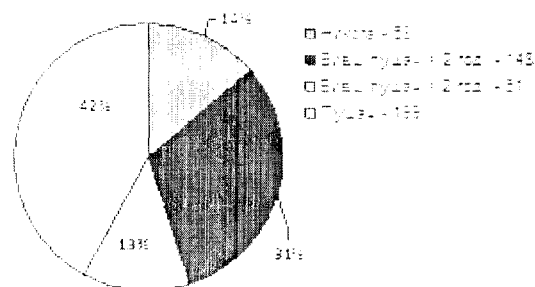
Първа клиника по кардиология, УМБАЛ „Д-р Георги Странски“, Медицински университет – Плевен, България

Цел. Да се анализира разпространението на тютюнопушенето при пациенти с исхемична болест на сърцето в Плевенска област.

Материал и методи. Проучването е направено сред 473 пациенти, които са приети в Първа клиника по кардиология, УМБАЛ „Д-р Георги Странски“ Плевен – България, между 1.01.2012 и 31.12.2013 г. с остър коронарен синдром, ангиографски или електрокардиографски доказателства за исхемична болест на сърцето. Пациентите са били проучени за разпространение на тютюнопушене. Обект на анализ са били анамнезата на пациентите, стари медицински документи, клиничен преглед, лабораторни изследвания включително ЕКГ и тропонин Т. Тютюнопушенето се определя като използване на цигари.

Резултати. Сред пациентите в Плевенска област, включени в проучването, беше установена висока честота на тютюнопушенето. От популацията на проучването 68 (14%) никога не са пушили през живота си, а 199 (42%) са настоящи пушачи. От проучваната група 148 (31%) са били бивши пушачи > 2 години, а 61 (13%) са били бивши пушачи < 2 години.

Заклучение. Сред пациентите с исхемична болест на сърцето в област Плевен се наблюдава висока честота на тютюнопушенето. Ефектът на тютюнопушене върху исхемичната болест на сърцето е добре известен. Би било полезно кампаниите против тютюнопушенето да бъдат популяризирани сред българите



просника бяха нанасяни прилаганите антихипертензивни медикаменти.

Резултати: В първоначалния скрининг са включени 711 болни. Мъжете са 68%, а жените – 32%. 11% са пациенти под 50-годишна възраст и 33% – над 70 години. В интервюто са включени 538 болни. То е проведено средно 1,3 години след дехоспитализацията. Средното артериално налягане за групата е 138,5/83,5 mm Hg. При 55,2% се регистрира повишено АН > 140/90 за недиабетиците и > 130/80 за диабетите. Терапевтичен контрол на АН е постигнат при 41,1%. Антихипертензивни медикаменти се прилагат при 79,6% от болните. Бета-блокери се прилагат при 82,3%, АСЕ инхибитори – при 61,8%, АРБ – при 5%, калциеви антагонисти – при 22,3%, диуретици – при 43,4%, други антихипертензивни медикаменти – при 3,2%.

Изводи: Болните с доказана ИБС, хоспитализирани по повод стенокардия, миокарден инфаркт или интервенция са с лош контрол на артериалното налягане. Въпреки масовото прилагане на антихипертензивни медикаменти, контрол на артериалното налягане според изискванията на ESC/ESH се постига при по-малко от 1/2 от болните.

П № 10. КОНТРОЛ НА ЛИПИДНИЯ ПРОФИЛ И ИЗБОР НА АНТИЛИПЕМИЧНА ТЕРАПИЯ ПРИ БОЛНИ С ИБС – РЕЗУЛТАТИ БЪЛГАРСКА КОХОРТА НА EUROASPIRE III – БОЛНИЧНО РАМО

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Проучването EUROASPIRE III (European Action on Secondary and Primary Prevention by Intervention to Reduce Events III) цели да се установи дали лекарите в европейските страни се придържат към препоръките за профилактика на Европейското кардиологично дружество. В това проучване за първи път взе участие и България. В болничното рамо на EUROASPIRE III бяха включени пациенти с доказана коронарна болест и анализът на поведението бе според документите при дехоспитализацията и интервю на болните след поне 6 месеца от изписването от болница.

Целта на настоящия анализ е да се покаже как се контролира дислипидемията при болните от България, включени в болничното рамо на проучването.

Материали и методи: Чрез стандартен въпросник за всички включени в EUROASPIRE III държави се определяше състоянието на болните, записваха се предписваните медикаменти при дехоспитализацията и приеманите по време на интервюта медикаменти. В централна за Европа лаборатория се анализираха кръвните проби и се изследваше ОХол, LDL-хол, HDL-хол и триглицериди.

Резултати: Първоначалният скрининг обхваща 711 болни. В интервюто са включени 538 болни. Интервюто е проведено средно 1,3 години след дехоспитализацията. Средният ОХол в групата е 5,01 mmol/L, средният LDL-хол е 3,2 mmol/L, средният HDL-хол за мъжете – 1,1 mmol/L и за жените – 1,18 mmol/L. Средните триглицериди

са 1,56 mmol/L. При 47,1% се установява ОХол > 5 mmol/L, при 63,7% – ОХол > 4,5 mmol/L и при 77,1% – ОХол > 4,0 mmol/L. При 52,9% се установява LDL-хол > 3 mmol/L и при 73,9% – LDL-хол > 2,5 mmol/L. ТГ > 1,7 mmol/L са констатирани при 44,5%. При 55,3% се регистрира терапевтичен контрол на ОХол < 5 mmol/L, при 35,4% < 4,5 mmol/L и при 20,1% < 4,0 mmol/L. Терапевтичен контрол на LDL-хол < 3 mmol/L има при 53,6%, а при 29,6% контролът на LDL-хол < 2,5 mmol/L. Липидопонижаваща терапия е прилагана при 62,3% от болните. Статини са прилагани при 59,1%, фибрати – при 4,3%. Други липидопонижаващи медикаменти не са използвани.

Изводи: Болните с доказана ИБС, хоспитализирани по повод стенокардия, миокарден инфаркт или интервенция, са с много лош контрол на липидния профил. Въпреки доказаната коронарна болест почти 40% не получават липидопонижаваща терапия, а тези които я получават, не контролират липидните параметри под прицелните стойности. ОХол и LDL-хол са много над желаните прицелни стойности.

П № 11. АНАЛИЗ НА РИСКОВИТЕ ФАКТОРИ ЗА АРТЕРИАЛНАТА ХИПЕРТОНИЯ В РЕГИОНА НА ПЛЕВЕН ЗА ПЕРИОДА 2008-2010 г.

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Артериалната хипертония (АХ) е значим независим рисков фактор за атеросклероза и за клиничните ѝ изяви като исхемична болест на сърцето (ИБС) и мозъчно-судова болест (МСБ). Проучени са многобройни фактори от околната среда, стила и начина на живот, както и от вътрешната среда на организма. За някои от тях има категорични доказателства, че повишават риска от възникване на артериална хипертония – напр. наднормено тегло, повишена консумация на сол, понижена физическа активност, психо-емоционално напрежение и стрес, тютюнопушене и други. За други фактори, например нивото на омега-3 и омега-6 полиненаситени мастни киселини в диетата, все още се натрупва доказателствен материал.

Целта на настоящото проучване е оценка на разпространението и рисковия профил на пациентите с артериалната хипертония сред населението на регион Плевен.

В проведеното от нас проучване са включени граждани на Плевен, изследвани през периода 2008-2010 година. На пациентите е измервано трикратно АН (според правилата на СЗО), измервана е талията и е проведена анкета за останалите рискови фактори, свързани със стила и начина на живот и типа на хранене.

Преобладаващата част от пациентите, при които са измерени повишени стойности на артериалното налягане (63%), са във възрастова група над 65 години, следвани от 55-65 годишните, по-често жени (57,4%). От всички изследвани и при мъжете, и при жените честотата на АХ е 42% (оценявани според кривите на ESC). Установи-

хме, че 27% от хипертоничките и 30% от хипертониците са пушачи. Двигателната активност е умерена при 72% от хипертониците и 77% от тези, които нямат артериална хипертония. 32% от хипертониците и 38% от нехипертониците добяват сол към храната си. 99% от анкетирания консумират храна, бедна на омега-3 и богата на омега-6 полиненаситени мастни киселини.

Изводи. От получените резултати може да се направят следните изводи: В Плевен честотата на артериалната хипертония сред населението е близка до тази при мъже в Източна Европа (42%). При 1/3 от хипертониците има поне още един рисков фактор (тютюнопушене). Няма достоверна разлика между хипертониците относно добавянето на сол към храната. Остава дискуссионен въпросът за нивото на омега-полиненаситените мастни киселини в диетата и риска от изява на артериална хипертония.

П № 12. ПРОСЛЕДЯВАНЕ НА ПРОМЕНЕТЕ ВЪВ ВЕГЕТАТИВНАТА СЪРДЕЧНО-СЪДОВА РЕГУЛАЦИЯ ПРИ ИНДИВИДИ С ПОВИШЕН СЪРДЕЧНО-СЪДОВ РИСК

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Състоянията, свързани с повишен сърдечно-съдов риск (артериална хипертония, метаболитни нарушения, затлъстяване), модифицират вегетативния контрол на сърдечно-съдовата система.

Цел: проследяване трайността на промените във вегетативната сърдечно-съдова регулация, оценявани по вариационността на сърдечната честота (BCЧ) в отговор на симпатиковата стимулация у млади нормотензивни индивиди с повишен сърдечно-съдов риск (Н+), сравнявани с лица без фамилна обремененост (К).

Материал и методи. В интервал от поне 6 месеца двукратно беше проведена ортостатична проба (ОП), включваща 3 петминутни периода – покой, изправяне, възстановяване. Регистрираше се непрекъсната електрокардиограма, неинвазивно налягане (Finapress) и плетизмографски се изчисляваше скоростта на пулсовата вълна (ab-PWV). BCЧ и вариационността на артериалното налягане (ВАН) бяха анализирани с програмите MIS2000 и iCardio.

Резултати. Беше установена впечатляваща повторимост в промените на BCЧ по време на ОП. Показателят на вегетативния баланс беше значимо по-нисък при К по време на трите периода (I ОП: 1,1; 3,0; 1,0; II ОП: 1,4; 4,1; 1,1) в сравнение с Н+ (I ОП: 2,8; 6,1; 1,6; II ОП: 3,5; 8,0; 2,9, $P < 0,05$). Сърдечно-съдовият отговор на ОП също запази специфичността си при двете изследвания. Контролите реагираха с намаляване на общата BCЧ (от 4747 на 3080 ms², $P < 0,05$), докато при Н+ беше характерно покачването на нискочестотната BCЧ (от 2515 на 4790 ms²).

Доминирането на симпатиковите влияния при Н+ се потвърждаваше от по-голяма ВАН и по-висока ab-PWV.

Обсъждане. Установено беше наличието на дискретни, клинично не проявени, но трайни промени във вегетативната сърдечно-съдова регулация при индивидите с повишен сърдечно-съдов риск.

Изводи. В заключение, използваните неинвазивни методи разкриват ранни промени в сърдечно-съдовата регулация и могат да намерят приложение в превантивната кардиология.

Грант Бг-Ск 201. НФ „НИ“

П № 13. МИКРОАЛБУМИНУРИЯ И ПОКАЗАТЕЛИ НА ВЪГЛЕХИДРАТНИЯ МЕТАБОЛИЗЪМ ПРИ ВЪЗРАСТНИ И СТАРИ ХОРА С ОСТЪР МИОКАРДЕН ИНФАРКТ

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Въведение: Известно е, че при възрастни и стари хора е по-често атипичното клинично протичане на острия миокарден инфаркт (ОМИ), а също че при вземане на клинично решение трябва да се обсъждат специфични и уникални за старите хора фактори. С увеличаване на възрастта нараства и честотата на ОМИ. Променя се и относителната роля на основните рискови и прогностично важни фактори. Редица изследвания от последните години показват, че микроалбинурията е свързана с по-висок леталитет при болни с ОМИ, а също и с по-висока степен и тежест на коронарните увреди. Същевременно на фона на повишения интерес на изследователите към нови рискови и прогностично важни фактори за ОМИ, данните за ролята им при стари хора са ограничени.

Цел: да се проучи връзката на микроалбинурията и гликемията, оценена чрез нивото на кръвната глюкоза при хоспитализацията (КГХ), по повод на ОКС и нивото на НвА1с с краткосрочната прогноза при болни с ОКС. Интерес представлява и евентуалното наличие на възрастова граница на промяна на относителната роля на рисковите и прогностично важните фактори.

Материал и методи: Проведено е проспективно 30-дневно наблюдение на 123-ма болни с ОМИ. Изследвани са нивото на микроалбуминовата екскреция (между 3-тия и 8-ия ден след хоспитализацията), серумните нива на кръвна глюкоза (КГХ – до 12-ия час след появата на симптоматика на ОМИ), НвА1с (до 6-ия ден след хоспитализацията), на холестерола, триглицеридите, креатинфосфокиназата, креатинфосфокиназа-МВ, креатинина. При обработката на данните са използвани корелационен и регресионен анализ.

Резултати: Значима корелационна зависимост се установява между възрастта и усложненото протичане на ОМИ ($r = 0,48$, $p = 0,000$), между нивото на албуминовата екскреция и възрастта на болните ($r = 0,35$, $p = 0,000$), между възрастта и наличието на

ЭПИДЕМИОЛОГИЯ НА МЕТАБОЛИТНИЯ СИНДРОМ СРЕД ПОПУЛАЦИЯТА В ГРАД ПЛЕВЕН

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ВЪВЕДЕНИЕ: Метаболитният синдром, характеризиращ се със ~~захарен диабет~~ АХ, дислипидемия, се асоциира със синдрома на ранно стареене ~~на съдовата~~ изразяващ се в промяна в еластичитета на съдовата стена. По-ранните ~~критерии~~ метаболитния синдром в съвременната популация води и до по-ранна ~~критерии~~ усложненията от ранното стареене на съдовете. Съчетаването на ~~няколко~~ фактори е ключово за ускоряването на процеса на стареене на съдовете. ~~Въпреки~~ социалната значимост на синдрома и неговите усложнения ~~няма~~ епидемиологични данни за метаболитния синдром сред популация в град Плевен.

МЕТОДИ: Епидемиологично проучване сред популацията в град Плевен, осъществено чрез анкетен метод. На всички включени пациенти са измерени АН, талия и микроалбуминурия.

РЕЗУЛТАТИ: Анкетирани са 142 души на случаен принцип. От тях 37 (26%) са метаболитен синдром на средна възраст 63г., от които 33-ма (89%) са с АХ, 11 (49%) са със захарен диабет. При 92% от жените и 80% от мъжете с метаболитен синдром талията е съответно над 80см и 94см. По анамнестични данни 23% от анкетираните са с дислипидемия. Петима са с микроалбуминурия.

ЗАКЛЮЧЕНИЕ: Представените резултати показват, че метаболитният синдром е широко разпространен сред плевенската популация и поставят ~~началото на~~ разширено и по-задълбочено изследване на проблема в региона.

Ключови думи: Метаболитен синдром, талия, АХ

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A

Abri

Agh

Akh

Alec

Alyc

Andi

Angi

Angi

Anki

Aran

Aser

Astu

Atici

Atigl

Attac

B

Baitc

Bank

Bank

Barb

Bartc

Bartu

Bazd

Behn

Beljik

Beser

Beshi

Betov

Bezma

Bogd

Boja,

Bolde

Boshu

Burgl

Byelo

**РАЗПРОСТРАНЕНИЕ НА АРТЕРИАЛНАТА ХИПЕРТОНИЯ И
РИСКОВИТЕ ФАКТОРИ ЗА ИБС В РЕГИОНА НА ГР.
ПЛЕВЕН ЗА ПЕРИОДА 2007-2009 ГОДИНА**

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Артериалната хипертония (АХ) е голям независим рисков фактор за атеросклероза и клиничната и изява като исхемична болест на сърцето (ИБС) и мозъчносъдова болест (МБС). През последната декада в България няма точна информация за разпространението на АХ и на рисковите фактори за нея.

ЦЕЛТА на настоящото проучване е оценка на разпространението и рисковия профил на артериалната хипертония сред населението от Плевен-град

МАТЕРИАЛИ И МЕТОДИ:

В проведеното от нас проучване са включени 560 граждани на гр Плевен, изследвани през 2007 и 2009 година. На пациентите е измервано трикратно АН (според правилата на СЗО), измервана е талията и е проведена анкета за останалите рискови фактори.

РЕЗУЛТАТИ:

Преобладаващата част от пациентите (63%) са във възрастовата група над 65 години, следвани от тези във 55-65 год., по-често жени (57,4%). От всички пациенти и при мъжете и при жените честотата на АХ е 42% (Оценявана според критериите на ESC). Средните стойности на АН при мъжете 139/86 мм Hg, а при жените е 130/80. Установихме, че 27% от хипертоничките са пушачки и 30% от хипертониците. Двигателната активност е умерена при 71% от хипертониците и 77% от тези, които нямат артериална хипертония. 32% от хипертониците добавят сол към храната си и 38% от нехипертониците.

ЗАКЛЮЧЕНИЕ:

В Плевен честотата на артериалната хипертония сред населението е близка до тази при мъже в Източна Европа (42%). В една трета от случаите хипертониците имат поне още един рисков фактор (тютюнопушене). Няма достоверна разлика между хипертоници и нехипертоници относно добавянето на сол към храната

Ключови думи: АХ, рисков фактор, ИБС

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СРАВНИТЕЛЕН АНАЛИЗ НА КОНТРОЛА НА АРТЕРИАЛНАТА ХИПЕРТОНИЯ В РЕГИОНА НА ГР. ПЛЕВЕН ЗА ПЕРИОДА 2007-2009 ГОДИНА

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Артериалната хипертония (АХ) е голям независим рисков фактор за атеросклероза и клиничната и изява като исхемична болест на сърцето (ИБС) и мозъчносъдова болест (МБС). Установена е тясна корелативна връзка между нивото на контрол на АХ и честотата на ИБС и МБС. Въпреки системните усилия в света нивото на контрол на АН варира между 8 и 43%.

ЦЕЛТА на настоящото проучването е оценка на нивото на контролираната артериална хипертония сред населението от Плевен-град през 2007 и 2009 г.

МАТЕРИАЛИ И МЕТОДИ: В проведеното от нас проучване са включени 560 граждани на гр. Плевен, изследвани през 2007 (420 души) и 2009 година (140). На пациентите е измервано трикратно АН (според правилата на СЗО), и са анкетирани относно данните за установена в миналата артериална хипертония и броя и вида на употребяваните от тях медикаменти.

РЕЗУЛТАТИ: Преобладаващата част от пациентите (63%) са във възрастовата група над 65 години, следвани от тези във 55-65 год., по-често жени (57,4%). От всички хипертоници 63% измерват артериалното си налягане веднъж седмично. Установихме, че през 2007 г. 36,3% от хипертоничките са с контролирано систолно налягане (под 139 мм Hg) и 32,8% от тях са с добър контрол на диастолното налягане. (под 89 мм Hg) През 2009 г. са съответно 38% и 32,5%. За мъжете установихме, че през 2007 г. 36% от хипертониците са с контролирано систолно налягане (под 139 мм Hg) и 35,5% от тях са с добър контрол на диастолното налягане. (под 89 мм Hg). През 2009 г. 37,3% и 35,2%.

ЗАКЛЮЧЕНИЕ: В Плевен около една трета от жените и мъжете с АХ контролират ефективно АН. По-успешен е контролът сред жените. Забелязва се тенденция за подобряване контрола на систолното артериално налягане.

Ключови думи: АХ, САН, ДАН

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POSTER 15

**DISTRIBUTION OF ATRIAL FIBRILLATION
AMONG HYPERTENSIVE PATIENTS IN CLINIC OF CARDIOLOGY AND
RHEUMATOLOGY PROF. K. CHICHOVSKI**

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INTRODUCTION

Arterial hypertension (AH) in patients over age of 18 is defined as systolic blood pressure equal to or higher than 140 mmHg and / or diastolic blood pressure equal to or higher than 90 mmHg or identified as elevated in patients with multiple previous measurements taking antihypertensives drugs. Hypertension is associated with early and rapid progressive atrial remodeling and atrial fibrosis, which is a prerequisite for the morphological manifestation of atrial fibrillation.

METHODS

A survey on the distribution of atrial fibrillation (AF) in patients with essential hypertension who were treated at Department of Cardiology and Rheumatology Prof. K. Chichovski "MU Pleven for the period 01-01, 2010 / 30-06, 2010, was conducted.

RESULTS

Total number of patients - 954, of whom 918 were diagnosed with hypertension. Of the total number of patients - 324 were with atrial fibrillation - 34%. From the patients with atrial fibrillation (n = 324), with AH were 306 (94.4%) and those without hypertension were 18 (5.6%). Of the total number of patients with atrial fibrillation (AF) with paroxysmal AF were 102 (31%) and 222 (69%) with persistent or permanent AF. Among patients with paroxysmal AF 60 are men (59%) and among patients with persistent or permanent AF 108 are men (49%). From the total number of patients with paroxysmal AF 54 (53%) have over 5 year duration of AH and 48 (47%) have less than 5 year duration of AH. From the total number of patients with persistent or permanent AF 174 (78%) have over 5 year duration of AH, 30 (13%) have less than 5 years of duration of AH and 18 (9%) have no history and physical data for AH. The average age of patients with paroxysmal AF was 59.5 The average age of patients with persistent or permanent AF was 71.8,

CONCLUSIONS

The arterial hypertension is a major predisposing factor for the development of atrial fibrillation. Almost all patients with atrial fibrillation are hypertensive. In the early stages of the development of hypertension there is a lower degree of remodeling and fibrosis of the atria when atrial fibrillation occurs, that determines the easier conversion to sinus rhythm.

KEY WORDS: hypertension, atrial fibrillation, duration

74. АНАЛИЗ НА АНГИОГРАФСКИТЕ ХАРАКТЕРИСТИКИ НА ТИПА НА РАЗКЛОНЯВАНЕ НА ЛЯВА ПРЕДНА ДЕСЦЕНДЕНТНА АРТЕРИЯ ПРИ ПАЦИЕНТИ С БИФУРКАЦИОННИ СТЕНОЗИ И ПРИ АНГИОГРАФСКИ НОРМАЛНИ КОРОНАРНИ СЪДОВЕ

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Бифуркационните лезии заемат около 15% от общия обем интервенционално третирани лезии. Над половината от този тип стенози са разположени в зоната на лява предна десцендентна артерия. Ако се приеме, че хемодинамичните фактори са водещи при инициирането и прогресията на атеросклеротичната плака, би трябвало да съществуват предилекционни места, като точките на разклоняване на артериите, където стенозите се срещат по-често. В случай, че не се установи такава предиспозиция, това би означавало, че не може да се предвиди мястото на възникване на плака и стеноза, което определя атеросклерозата като стохастичен процес. Алтернативно други фактори, а не хемодинамичните, биха били определящи във възникването и развитието на плаките на точно определени места. В представеното проучване е направен анализ на ангиографиите на коронарните съдове при 800 пациенти. Сравнени са анатомичните белези - дължина и диаметър на сегментите, ъгли на отделяне и ъгли на прогресия на LAD, дължина на стенотичните сегменти, съотношението между дължините, диаметрите и начина на разклоняване на артериите. Описани са характеристиките при пациенти с бифуркационни стенози, такива с коронарна болест без засягане на LAD и нормални ангиографски коронарни съдове.

75. ПРОГНОСТИЧНА РОЛЯ НА NTproBNP ПРИ ХОСПИТАЛИЗИРАНИ ПАЦИЕНТИ СЪС СЪРДЕЧНА НЕДОСТАТЪЧНОСТ

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Въведение: Установена е връзката на невро-хормоните с неблагоприятната прогноза при хронична сърдечна недостатъчност (СН). **Целта** на нашето изследване е да се оцени ролята на плазмената концентрация на мозъчния натриуретичен пептид (NTproBNP) като предиктор на изхода при хоспитализирани пациенти със СН.

Методи: В проучването са включени 127 пациенти с клинично изявена СН от II до IV ФК по NYHA, от които 69 мъже (57,0 %) на средна възраст $61,9 \pm 8,4$ години. Пациентите са последователно хоспитализирани по повод обострена хронична СН. В деня на дехоспитализацията са осъществени стандартни лабораторни и функционални изследвания и е взета венозна кръв за изследване на NTproBNP чрез ELISA метод. Крайната цел е дефинирана като рехоспитализация по повод на обострена СН в рамките на 6 месеца, повече от 2 хоспитализации за 1 година или сърдечно-съдова смърт.

Резултати: Проследени са 121 пациенти (95,3%) за средно 387 ± 117 дни. Поне един първичен краен резултат е регистриран при 54 пациенти (44,6%). При еднофакторния анализ NTproBNP / $\mu\text{g/l}$ квадрат = 32,93, $p < 0,0001$) показва значима предиктивна стойност за първичната крайна цел. Стълковият регресионен анализ определи като най-значими предиктори на изхода NTproBNP, лявокамерната фракция на изтласкване и систолното артериално налягане при дехоспитализация.

Изводи: При пациенти, хоспитализирани по повод на обострена хронична СН, плазмената концентрация на NTproBNP преди дехоспитализация допринася значимо за предсказване на изхода при пациенти със СН. **Ключови думи:** мозъчен натриуретичен пептид, сърдечна недостатъчност, прогноза.

**22. КОРЕЛИРАЩИ ПРОМЕНИ ВЪВ
ВАРИАБИЛИТЕТА НА СЪРДЕЧНИЯ
РИТЪМ И КАМЕРНАТА
ЕКСТРАСИСТОЛИЯ, ОТРАЗЯВАЩИ
ПОЛОЖИТЕЛНИЯ ЕФЕКТ ОТ
ЛЕЧЕНИЕ НА СЪРДЕЧНАТА
НЕДОСТАТЪЧНОСТ С ДИЛАТРЕНД®**

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Върху 20 болни със сърдечна недостатъчност (СН) (II – III функционален клас по NYHA), лекувани с ДИЛАТРЕНД® с постепенно нарастващи дози от 3,125 до 25 мг, е проучено повлияването върху вариабилитета на сърдечния ритъм (ВСР) и камерната екстрасистолия. Намаленият ВСР при болни със СН е показател за повишен сърдечен риск от тежки камерни ритъмни нарушения, най-чести сутрин. Проучването включва Холтер ЕКГ, както и определяне на показателите за ВСР сутрин и следобед в покой и при стимулационни проби, преди лечението и след едномесечна терапия. С Холтер ЕКГ е установена различна по тежест камерна екстрасистолия преди и след лечението. Камерните екстрасистолни нарушения се свързват с хиперсимпатикотонията при СН, особено сутрин. Промените в автономния баланс преди и след лечението са изследвани с въведена от нас методика за оценка на симпатико-вагалия баланс в различни моменти на денонощието чрез показателите за ВСР. Установено бе, че в резултат от лечението с ДИЛАТРЕНД® се наблюдава повишен ВСР, показващ тенденция към нормализиране на автономния баланс. Автономната недостатъчност се подобрява значително и в сутрешните часове, което е отразено в потискане на хиперсимпатикотонията. Тези промени корелират с установеното намаляване на тежестта на камерната екстрасистолна аритмия след лечението. Този резултат позволява да се предположи, че при запазена тенденция към повишаване на ВСР в течение на терапията се подобрява прогнозата за преживяемост при СН.

**23. КЛИНИЧНА ХАРАКТЕРИСТИКА И
КОМОРБИДИТЕТ ПРИ
ПАЦИЕНТИТЕ СЪС СИСТОЛНА И
ДИАСТОЛНА ДИСФУНКЦИЯ:
РЕЗУЛТАТИ ОТ РЕГИСТЪРА ЗА
СЪРДЕЧНА НЕДОСТАТЪЧНОСТ НА
КАРДИОЛОГИЧНА КЛИНИКА
"ПРОФ. КИРИЛ ЧИЧОВСКИ"**

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Цел: Изследване клиничната характеристика и коморбидитета при пациентите със систолна и диастолна сърдечна недостатъчност, последователно хоспитализирани в Кардиологична клиника "Проф. Кирил Чичовски" след май 2003 г.

Методи. Създадохме регистър, в който се вписват всички последователно хоспитализирани пациенти с диагноза сърдечна недостатъчност III и IV ФК по NYHA след май 2003 г., които отговарят на Фрамингамските критерии за сърдечна недостатъчност.

Резултати. В регистъра са вписани 166 последователни пациенти, хоспитализирани с диагноза СН за периода май 2003 г. – февруари 2004 г. От тях 55.4 % са мъже, 59 % са на възраст над 65 г. 56.2 % имат ФИ > 45 %. Пациентите със запазена ФИ (ФИ > 45 %) са предимно по-възрастни жени, при които е по-малка честотата на документиран преживян миокарден инфаркт, преобладава артериалната хипертония и е по-голяма честотата на захарен диабет. Няма разлика по отношение на ХБН, анемия, предсърдно мъждене. Съществено е, че 13.6 % от пациентите със запазена ФИ имат АН < 100 mmHg.

Заключение. Пациентите с декомпенсирана СН могат да се представят както с понижена, така и със запазена ФИ. Тези със запазена ФИ са по-възрастни, по-често жени, със захарен диабет и артериална хипертония и с по-малка вероятност да имат ИБС и преживян миокарден инфаркт. Лечението и клиничната картина са сходни. Хипотонията е необичайна.

62. ОПИСАНИЕ НА КЛИНИЧЕН СЛУЧАЙ С ИБС – ПРЕЖИВЯНИ ПЕТ МИОКАРДНИ ИНФАРКТИ И АНГИОГРАФСКИ ДОКАЗАНА ВТОРА LAD С ПРОИЗХОД ОТ ДЕСЕН КОРОНАРЕН СИНУС.

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Представя се 60 – годишен пациент, пролежал петкратно в Кардиологична Клиника "Проф. К. Чичовски" – МБАЛ Плевен за периода 1988 – 2003 г. по повод нетрансмурален миокарден инфаркт 1988 г., след асимптомнен период 2001 г. преживян остър долен миокарден инфаркт с Q зъбец; 2003 г. март и октомври реализирани два поредни долни миокардни инфаркти с оформен Q зъбец и осъществявана фибринолиза. През ноември 2003 г. е осъществена СКАГ с резултат: ИБС. Двуклонова коронарна болест и втора LAD, излизаща от десен коронарен синус, без хемодинамично значими стенози, поради което е насочен за оптимална консервативна терапия и контрол на рисковите фактори за ИБС. Въпреки това през юни 2004 г. е реализиран пети миокарден инфаркт със ST – елевация в същата зона, проведена фибринолиза.

63. НЯКОИ ОТ НАЙ-ЧЕСТИТЕ ЕХОКАРДИОГРАФСКИ ПАРАМЕТРИ ЗА МОНИТОРИРАНЕ НА ХРОНИЧНАТА СЪРДЕЧНА НЕДОСТАТЪЧНОСТ И ТЯХНОТО ПРОГНОСТИЧНО ЗНАЧЕНИЕ

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За периода 2003/2004 год. са проследени ехокардиографски 100 болни с различна етиология на ХСН, постъпили на лечение по повод на изострянето ѝ. Проследени са следните ЕхоКГ показатели за систолна ЛК функция - $ФИ > 40\%$ и $ФИ < 40\%$, съотв. 60 и

40 болни, и параметрите за ЛК диастолна дисфункция Е-пик, А-пик, Е/А, ВД на митралния кръвоток, определени посредством Доплер-ЕхоКГ, чрез Колор-Доплер-М-мод-Vp тъканен Доплер-сistolна скорост Sa, ранна диастолна фаза Ea и късна диастолна фаза Aa (20 болни) на 6-ия и 12-ия месец от постъпването им. Въз основа на това бяха определени 3 типа ЛК диастолна дисфункция при изследваните болни с ХСН:

1) удължена ЛК релаксация - при 30% от болните с ХСН-II ФК;

2) "псевдонормализация" - при болните с ХСН III ФК;

3) рестриктивен тип - при 20% от болните с ХСН, предимно с IV ФК по NYHA.

Като ранни предиктори на ВСС при болните с ХСН се посочват ЕхоКГ белези за нарушена ЛК диастолна функция, докато $ФИ\%$ се явява късен предиктор за ВСС при болните с ХСН. Това доказва необходимостта от серийни ЕхоКГ при болните с ХСН на 6 месеца за оценка на прогнозата и ползата от приложеното лечение.

64. ЛИПИДИ-РЕГУЛИРАЩА ТЕРАПИЯ - СЪРДЕЧНО-СЪДОВ РИСК И ПОКАЗАТЕЛИ НА ЛИПИДНИЯ МЕТАБОЛИЗЪМ

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След проведените през последното десетилетие големи многоцентрови, плацебо контролирани клинични опити вече няма съмнения в ползата от антидислипидемичната терапия. Понастоящем обаче, все още малко от нуждаещите се провеждат липиди-регулираща терапия. Обсъждат се различни причини - в недостатъчна степен съблюдаване на съвременните препоръки, недостатъчен комплайанс на болните, висока цена на липиди понижаващите медикаменти, всички те аргументиращи нуждата от нови стратегии за подобряване на комплайанса на болни и лекари. Същевременно въпросът е не дали, а при какъв сърдечно-съдов риск е обосновано провеждането на липиди регулираща терапия, предвид ограничените ресурси отделяни за здравеопазване. Търсенето на прогностично значими

orth above haven't been revealed in the control group of significant changes. Thus, Nebilet is effective means in treatment of elderly patients

79. ДИАГНОЗА И ЛЕЧЕНИЕ НА ХРОНИЧНАТА СЪРДЕЧНА НЕДОСТАТЪЧНОСТ – ДОСТИГАТ ЛИ СЪВРЕМЕННИТЕ ПРЕПОРЪКИ ДО АМБУЛАТОРНАТА ПРАКТИКА?

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Лекарят от амбулаторната практика (АП) отговорен за ранната и точна диагноза на хроничната сърдечна недостатъчност (ХСН), започването на лечение и проследяването на еволюцията на болестта.

Цел. Да оценим как се изпълняват препоръките на Европейското кардиологично дружество за поставянето на диагноза и лечението на ХСН в работата на общопрактикуващите лекари (ОПЛ).

Материал и методи. Изследвани са 340 болни с повишен сърдечно-съдов риск от ОПЛ практики в град Варна и общината. Болните с диагноза ХСН са 91 (26,8% от всички участници) – 50 мъже и 41 жени, на възраст 72 ± 9 (50 – 90) години, NYHA клас – IV. Седемдесет и осем процента от тях имат исхемична болест на сърцето (48% – миокарден инфаркт и 52% – ангина пекторис), 93% – артериална хипертония и 13% – клапни пороци.

Резултати. Симптомите и обективните признаци на ХСН са документирани при 47% от болните. Функционалният клас е определен в 69% от случаите. ЕКГ имат всички болни, като интерпретация по отношение на ритъм е правена в 99%, а по отношение на QRS морфология и ST-T отмени – в 68%. Рентгенография на гръдна стъпка е правена при 43% от болните, като рентгенови белези за СН имат 23%. Ехокардиография (ЕХОКГ) имат 40% от пациентите, като доказателства за сърдечна дисфункция в покой са налице при 22%.

Систолна дисфункция имат 24% от изследваните, диастолна – 28%, смесена – 28% и в 20% левокамерната функция е неопределена. АСЕ инхибитори (АСЕи) получават 85%, бета блокери (ББ) – 32%, антагонисти на алдостерона (АА) – 33% и ангиотензин II рецепторни блокери – 3% от болните. Препоръчителни дози са достигнати при 63% от лекуваните с АСЕи, 11% от лекуваните с ББ и 52% от приемащите АА. При останалите болни с АА дозата значително надвишава прицелната. Сърдечни глюкозиди (СГ) са предписвани при 39% от пациентите, като 67% от тях са с предсърдно мъждене. Тридесет процента от болните със синусов ритъм и диастолна ХСН приемат СГ. Диуретично лечение провеждат 85% от болните, като 60% получават фурантрил и 40% – тиазидни диуретици.

Заклучение. Нашите данни показват, че има известно подценяване на клиничния преглед за диагнозата на ХСН в АП. Инструменталните методи за диагноза на ХСН не са застъпени достатъчно. ЕХОКГ оценка на сърдечната функция се прилага в недостатъчен обем и интерпретацията и е незадоволителна. АСЕи и ББ се прилагат в субоптимални дози, като последните се използват сравнително рядко. При около половината болни АА се дават в неоправдано висока доза. СГ се предписват и при липса на индикации.

80. НЯКОИ СЛУЧАИ С ТЕЖКА СЪРДЕЧНА НЕДОСТАТЪЧНОСТ, ЛЕКУВАНИ В КАРДИОЛОГИЧНА КЛИНИКА ПЛЕВЕН

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Сърдечната недостатъчност (СН) е здравен проблем с голяма обществена значимост от данните на ESC "Euro Heart Failure Survey". 24% от болните, постъпващи в кардиологични клиники, са със СН. СН се установява в 1-3% от общата популация и нараства до 10% след 65 годишна възраст. Съвременното терапевтично поведение на болните със СН се базира на многобройни проучвания, установили детайлно нервно-хуморалните

механизми на синдрома.

Представяме три случая на тежка сърдечна недостатъчност (СН III-IV клас по NYHA) с полиорганни усложнения, лекувани в Кардиологична клиника, при които е проведено оптимално лечение, съгласно препоръките на ESC и е довело до овладяване на симптомите, както и подобряване на качеството на живот. Първият случай е пациентка на 50 години М.С.П. ИДКМ/идиопатична дилатативна кардиомиопатия/и ЛББ. При същата е преодоляна и мозъчната симптоматика, вследствие тежка дилуционна хипонатриемия и като обсъдена за ресинхронизираща терапия /РСТ/ и насочена към съответния център.

Вторият случай е пациент на 47 години Д. Я. М. с постмиокардитна дилатативна КМП с допълнителна тежка чернодробна дисфункция, хипопротеинемия, мозъчна симптоматика, постигнато хемодинамично стабилизиране и обсъден като показан за трансплантация. Третият пациент е на 58 енотипизация, преценен като показан за трансплантация. Изводите са, че съвременната оптимална терапия на болните със СН, успешният контрол на ко-морбидната патология, може да забави влошаването на СН, да редуцира симптомите да удължи продължителността и подобри качеството на живот. Адекватното медикаментозно лечение на тежката СН е предпоставка за допълнителна съвременна немедикаментозна терапия, каквато би била РСТ.

81. КОНТРОЛ НА РИСКОВИЯ ПРОФИЛ ПРИ ЛИЦА С ВИСОК СЪРДЕЧНО-СЪДОВ РИСК В АМБУЛАТОРНАТА ПРАКТИКА

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Профилактиката на сърдечно-съдови заболявания (ССЗ) чрез идентифициране на високорискови пациенти и опити за промяна на рисковия им профил е първостепенна задача на общопрактикуващите лекари (ОПЛ) и кардиолозите.

Цел: Да се изследва честотата на основните рискови фактори (РФ) при здрави лица без ССЗ, но с висок рисков профил от амбулаторни практики във Варна и общината, и да се оцени адекватността на усилията за ефективното им извънболнично повлияване.

Участници и методи: От девет амбулаторни практики на ОПЛ са подбрани общо 340 пациента с висок СС риск и ОПЛ са попълнили подробен въпросник, като е използван модифициран въпросник на Европейското кардиологично дружество (Europe Heart Survey). Отдиференцирани са общо 84 участници без наличие на ИБС, сърдечна недостатъчност или мозъчно-съдова болест, на средна възраст $62,4 \pm 11,7$ год. (29-81 год.).

Резултати: С известна артериална хипертония (АХ) са 92%. С предхождаща дислипидемия са 44%, а захарен диабет (ЗД) имат 26% от участниците. Данни за общ холестерол са налице при 89% (90% от тези с АХ и 86% от тези със ЗД), за HDL-холестерол – при 63% (съответно 65% и 59%), за LDL-холестерол – в 29% (29% и 27%), триглицериди – в 6% (6% и 0%). С наднормено тегло (ИТМ > 25 кг/м²) са 72%, а с истинско затлъстяване (ИТМ > 30 кг/м²) – 26,6%. Малък е броят на пушачите в момента – 9,6%, като 22,9% са бивши пушачи. Два РФ едновременно имат 82,1%, три РФ – 38,8%, четири РФ – 11,1%. Ефективно лечение на АХ (<140/90 mm Hg) с поне един медикамент осъществяват 57%, но контролът при диабетиците (<130/80 mm Hg) е минимален – само в 1,2%. Съгласно съвременните препоръки комбинирано лечение на АХ с два медикамента провеждат 74%, с три – 49%, а с 4 лекарствени средства – 13%. От тези с известна дислипидемия лечение с липидопонижаващи медикаменти провеждат общо 29,7% – със статини 16,2% и с фибрати 13,5%. Промяна в начина на живот е препоръчана при повечето високорискови пациенти, но осъществяването ѝ не е комплексно.

Заклучение: Първичната профилактика на ССЗ – търсене и коригиране на РФ, се осъществява частично при високорискови болни. Лечението на АХ в амбулаторната практика се доближава до препоръчаните стандарти по отношение на използване на комбинирана терапия. Контролът на АХ при

СЕКЦИЯ ВЪТРЕШНИ БОЛЕСТИ

П13

КЛИНИЧНА ХАРАКТЕРИСТИКА И КОМОРБИДИТЕТ ПРИ ПАЦИЕНТИТЕ СЪС СЪРДЕЧНА НЕДОСТАТЪЧНОСТ: РЕЗУЛТАТИ ОТ РЕГИСТЪРА ЗА СЪРДЕЧНА НЕДОСТАТЪЧНОСТ НА КАРДИОЛОГИЧНА КЛИНИКА "ПРОФ. КИРИЛ ЧИЧОВСКИ"

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Цел на проучването: Анализ на клиничната характеристика и коморбидитета при пациентите със симптомна сърдечна недостатъчност (СН) III и IV ФК по NYHA, последователно хоспитализирани в Кардиологична клиника "Проф. Кирил Чичовски" през периода май 2003 г. – февруари 2004 г.

Методи: Резултатите са получени от регистъра за сърдечна недостатъчност на Кардиологична клиника "Проф. Кирил Чичовски". В него са вписани 166 последователно хоспитализирани пациенти с диагноза сърдечна недостатъчност III и IV ФК по NYHA, за периода май 2003 г. – февруари 2004 г., които отговарят на Фрамингамските критерии за сърдечна недостатъчност.

Резултати: За периода май 2003 г. – април 2004 г. в регистъра са вписани 166 последователни пациенти, хоспитализирани с диагноза СН III и IV ФК. От тях 92 или 55.4% са мъже, чиято средна фракция на изтласкване е 42.6%. 59% са на възраст над 65 г. Средната фракция на изтласкване при жените е 48.8%. 56.2% имат ФИ > 45 %. 14.4% от пациентите страдат от ХОББ, от тях 54% са мъже. Анемия имат 23.8 %, от тях 24.3% са IV ФК. ХБН е установена при 3.6%. Захарен диабет тип 2 имат 39 пациенти или 23.49 %, от тях 17 /43.5%/ са мъже. Анамнеза за преживян миокарден инфаркт имат 52 или 31.3%, а такава за артериална хипертония 115 или 69%. Хипотония при постъпването са имали 18.6%, от тях 54.5% са IV ФК.

Обсъждане: Пациентите с декомпенсирана СН III и IV ФК са особена група полиморбидни пациенти, които изискват специални грижи, скъпо лечение и честии рехоспитализации. Резултатите потвърждават факта, изтъкван от много автори, че анемията е честа при пациентите със СН и честотата ѝ е толкова по-голяма, колкото по-висок е функционалният клас. Често, съпътстващо състояние при СН е захарният диабет. Той превалява при пациентите със СН с исхемична етиология, особено при тези преживели миокарден инфаркт, което кореспондира с всеизвестния факт, че захарният диабет е основен рисков фактор за ИБС. Интересно е, че анемията е по-честа при пациентите със захарен диабет и СН. Очаквано най-честата етиология на СН е ИБС, особено преживян миокарден инфаркт. Прави впечатление високият процент на пациентите със съпътстваща ХОББ.

Ключови думи: симптомна сърдечна недостатъчност, коморбидитет, регистър, анемия, захарен диабет