РЕЗЮМЕТА

НА ПУБЛИКУВАНИТЕ НАУЧНИ ТРУДОВЕ

В. Борисов, Б. Особености на съдовия достъп при пациенти с наднормено телесно тегло, диабетици и възрастни, лекувани с хемодиализа поради терминална бъбречна недостатъчност.

РЕЗЮМЕ

Безспорен факт е, че нивото на бъбречната заболеваемост в световен мащаб нараства осезаемо. Това е свързано както с увеличаването на населението, така и с увеличената средна продължителност на живота, отчитана дори в страните с нисък ръст на икономическо развитие.

Заедно с увеличената средна възраст на населението, в резултат на подобрените здравни грижи и услуги се увеличава и дела на хората с две и повече съпътстващи заболявания. Подобрен и достъпа на пациентите до здравни заведения.

Високата бъбречна заболеваемост неминуемо води до нарастване на кандидатите за бъбречно-заместително лечение, включително с хемодиализа. Независимо, че все още се отчита изоставане в предлагането и провеждането на такова лечение, спрямо броя на нуждаещите се от него, в повечето страни със средно и високо икономическо развитие е на лице увеличени на диализните пациенти.

Хемодиализното лечение е по своята същност неперфектно бъбречно-заместващо лечение, защото за разлика от здравия бъбрек, то се провежда само 12-15 часа седмично. Крайъгълен камък за качеството на това лечение е осигуряването на достатъчно надежден съдов достъп. Това означава от

една страна достъпа да осигурява достатъчен кръвен дебит, необходим за доброто очистване на крайните продукти на обмяната на веществата по време на всяка диализна сесия; от друга страна – осигуряването и експлоатацията на този достъп трябва е свързано с минимален брой усложнения. Такъв достъп за съжаление не съществува, за момента.

В световната литература се очертават нуколко групи болни, които по-често от останалите имат проблеми с осигуряването и безпроблемната експлоатация на различните видове съдови достъп. Това са пациентите със

захарен диабет, наднормено телесно тегло и такива над 65-годишна възраст.

Към тях е уместно да бъдат добавени жените и афро-американците.

Комбинирането на тези пет категории болни по между си дава 55 комбинации и показва същината на проблемите свързани със съдовия достъп.

В настоящият монографичен труд се разглеждат особеностите на временния съдов достъп и нативните артерио-венозни анастомози при диабетици, болни с наднормено телесно тегло и затлъстяване, и възрастни. Разгледан и съпоставен е нашият собствен опит с опита на водещи държави, здравни системи и авторитети в областта.

Разделени са проблемите свързани с централните венозни катетри и такива, произтичащи от техническо естество по създаването и използването на фистулите. Представения материал показва, че на настоящия етап първото нещо, което лекуващия лекарски екип трябва да осигури е достатъчно подробна и обективна информация на пациента за различните видове съдов достъп, както и потенциалните неблагополучия, които могат да възникнат при осигуряванеоти експлоятирането на съответния достъп. По този начин болният ще получи възможността за споделена отговорност, свързана с качеството на своя живот и неговото предстоящо лечение.

Ние не бива да игнорираме нито една категория болни от различните видове съдов достъп, но те трябва винаги да са индивидуално съобразени, с особеностите описани при съответната рискова група.

Разгледани са в голяма степен и практически препоръки, свързани както с техниките за канструиране на нативни фистули и инсерция на тунелизирани катетри, така също и свързани с някои чести усложнения при тяхното използване, като аневризмектомии, суперфициализации на отводящата вена, диагностични методи и лечебни тактики при неусложнени и усложнени катетър-асоциирани инфекции.

Този монографичен труд ще бъде полезен основно за лекарите работещи в клиники, отделения и диализни центрове, но също така може да послужи за информация и справка на съдови хирурзи, общи хирурзи и реаниматори, свързано с техни интереси в областта на съдовия достъп, изобщо.

G 7.1 S. Linkova. Unusual Complication of Hemodialysis Cuffed Catheter Tunnel Infection and Unconventional Therapeutical Decision: A Report of Two Cases. Case Reports in Surgery, Volume 2018, Article ID 2405864, ISSN: 2090-6919.

Introduction. Infectious complications are the most common chronic complications observed in patients undergoing hemodialysis with central venous catheters. However, despite the efforts of a large number of medical professionals, tunnel catheters are increasingly being used for hemodialysis in the everyday practice. Case Report. We describe two cases of an equal complication of a tunnel infection wherein the catheter becomes naked after self-rupture of the purulent secretion. We did not replace the tunnel catheter but applied a skin plastic by rotation flaps over the affected area, which proved to be sufficient. Six months after the intervention, the patients continue their hemodialysis treatment using the same cuffed catheters; the taken chemocultures do not give rise only to bacterial growth and skin plastic has been healed primary. Conclusions. The two cases described by us represent one treatment option, which may be discussed with reference to such specific two cases in practice.

G 7.2 Borisov, B., Iliev, S. Supraclavicular approach to the subclavian vein - One well forgotten technique with impressive results. Polski Przeglad Chirurgiczny/ Polish Journal of Surgery, 2019, 91(4): 19-23; ISSN: 0032-373X

Purpose: Insertion of temporary and tunneled catheters for hemodialysis in the internal jugular vein is a “gold standard”. On the other hand, the supraclavicular approach to the subclavian vein was described by Yoffa in 1965. Despite its old invention, the latter technique has been well forgotten for unknown reasons. The aim of this study is to present our experience with the usage of the supraclavicular approach for insertion of temporary and tunneled catheters as vascular access for hemodialysis treatment.

Material and Methods: We provide our experience on the insertion of 506 temporary and 501 tunneled catheters within a five year period (from 1st January 2010 to 31st December 2014). We use 8 (eight) different places for catheters’ insertion, including the subclavian vein via supraclavicular approach following the techniques of D. Yoffa and J. Gorchynski. The collected data include age, sex, reasons for hemodialysis, number of attempts for successful cannulation, number of acute (AC) and chronic (CC) complications, and dependence on the catheter insertion location.

Results: The gender distribution shows 463 (46%) women and 544 (54%) men with a median age of 60.0 (+/- 13.2) years. In the cases of temporary catheters: 104 (20.5%) are inserted in the subclavian vein via supraclavicular approach (SCVSC), 70 (13.8%) – in the internal jugular vein (IJV); in the cases of tunneled ones – SCVSC – 281 (56%), and IJV – 207 (41%) catheters, respectively.

We found a significant statistical correlation ($p < 0.05$ and $r = 0.23$) between acute complications and the insertion position – AC

are more for IJV insertion, than in SCVSC. We did not find a significant correlation between the insertion place and the chronic complications. Even central vein stenosis is more frequent in the IJV than in the SCVSC, but this is not significant ($p > 0.05$). Primary catheter patency of temporary and tunneled catheters is higher when they are inserted in the left veins.

Conclusion: We conclude that the supraclavicular approach to the subclavian vein is an easier, safer and practically more convenient method than cannulation of the IJV. The revisit of this approach demonstrates that it should be used more widely

G 7.3 Borisov, B., Iliev, S. Superficialization of the outflow vein in case of a cubital fistula - always or sometimes? Polski Przeglad Chirurgiczny/ Polish Journal of Surgery, 2019, 91(3): 6-9; ISSN: 0032-373X

Introduction: The hemodialysis treatment requires an outflow vein from an arterio-venous fistula which is easily accessible and suitable for multiple venepunctures. The increasing number of elderly patients, those overweight and those with diabetes mellitus, has led to increased number of primary cubital anastomoses. The purpose of this study was to show our attempt to superficialize the outflow vein (s) in patients with difficult venipuncture after a previously constructed native cubital fistula.

Materials and method: The data set is comprised of 442 arterio-venous anastomoses performed within a 5-year period (from 1st July 2011 until 30th June 2016) in the Clinic of Nephrology and Dialysis at Medical University, Pleven, Bulgaria. The primary cubital fistulas constitute 311 (70%) of all cases. Consecutive superficialization of the outflow vein was performed in 18 cases (6%).

Results: No case of complications was recorded – neither during the intervention, nor afterwards, when the fistula was used. One-year patency of the fistula was observed in 17 patients (94%). The surgery has been successful (comfortable access for puncture area) in 17 cases (94 %).

Conclusions: According to the data presented by us, the planned superficialization of the outflow vein(s) in cubital anastomoses shows good perioperative and one-year survival. It may be observed in patients with difficult-to-puncture veins and we recommend using it more often in practice. This intervention improves the quality of treatment in patients undergoing hemodialysis.

G 7.4 Hitkova, H.Y., Georgieva, D.S., Hristova, P.M., Marinova-Bulgaranova, T.V., Borisov, B.K., Popov, V.G. Antifungal susceptibility of non-albicans candida species in a tertiary care hospital, Bulgaria. Jundishapur Journal of Microbiology, 2020, 13(8): art. no. e101767, pp. 1-6; ISSN: 2008-3645

Abstract

Background: Emerging non-albicans Candida (NAC) species are a major threat because of their intrinsic or acquired resistance to routinely applied antifungal agents.

Objectives: The purpose of our study was to reveal in vitro activity of nine antifungal agents against NAC isolates.

Methods: A total of 67 NAC (27 Candida glabrata, 10 C. tropicalis, 6 C. krusei, 6 C. parapsilosis, 4 C. lusitaniae, 4 C. lipolytica, etc.) were identified and tested. The antifungal susceptibility was estimated on the basis of minimum inhibitory concentrations (MIC).

Results: Overall, 13 species were determined, of which C. glabrata was the most common (40.3%), followed by C. tropicalis (14.9%), C. krusei, and C. parapsilosis (8.9 % each). Forty-nine NAC isolates (73.13%) demonstrated decreased susceptibility to one or more antifungals, and 18 of them were resistant to all azoles. Out of 27 C. glabrata, 12 (44.4%) were resistant to fluconazole with MICs: 32 - >128 μg/mL and 15 (55.6%) were intermediate with MICs: 8 - 16 μg/mL Non-albicans Candida revealed a good susceptibility to echinocandins. Amphotericin B resistance was found in 5.97% of the isolates. Of particular interest was the detection of 6 (8.95%) multidrug-resistant NAC, which expressed resistance to azoles and echinocandins and/or amphotericin B.

Conclusions: About one-fourth of the studied NAC were resistant to all azoles. These findings as well as the detection of several multidrug-resistant isolates determine the necessity of susceptibility testing of clinically important yeast isolates and control of the antifungal drugs in our hospital.

G 7.5 Borisov, B., Linkova, S. Infectious Complications of Hemodialysis Tunneled Catheters—Types, Diagnosis, and Treatment Strategies. Indian Journal of Surgery, 2020, 82 (4): 460-464; ISSN: 0972-2068

Abstract

The number of patients with end-stage renal disease (ESRD) treated with hemodialysis (HD) increases annually globally. One of the main factors determining the quality of their lives is the type of vascular access used. Tunnel catheters have entered the medical practice since 1987. Regardless of the recommendations for their use in up to 10% of hemodialysis patients, their relative

share has risen in the last two decades two to three times in the countries of Europe, and in the USA and Canada, they represent over 40% of the access for hemodialysis treatment. The current literature review aims to present the main complication in their use—catheter-related infections. The different types of infectious complications, their pathogenesis, their laboratory diagnostics, and practical guidelines for the behavior of each of them are examined.

G 7.6 Borisov, B.K., Hitkova, H.Y., Linkova, S.P. Tunnelled Hemodialysis Catheter-Related Bloodstream Infection with Ochrobactrum Anthropi: A Report of the First Two Cases from Bulgaria and a Brief Overview. Folia Medica, 2021, 63(1): 148-152; ISSN: 0204-8043

Abstract

The use of central venous catheters for hemodialysis continues to grow worldwide, despite the efforts of many specialists. Patients with end-stage renal disease have impaired immunity, which is why infections are the most common complication seen in them. It worsens their quality of life and is a major cause of high morbidity and mortality, especially in hemodialysis patients.We report two cases of catheter-related bloodstream infection in hemodialysis patients caused by Ochrobactrum anthropi, which are the first reported cases in Bulgaria and present a brief literature review of the known facts.

G 7.7 B. Borisov, E. Borisova, D. Lubomirova, P. Glogovska. Morbidity and Mortality from Covid-19 in a Dialysis Center in Northern Bulgaria. Journal of IMAB, 2022, Oct-Dec, 28(4): 4735-4737; ISSN: 1312-773X

ABSTRACT

Purpose: Since its inception in early 2020, COVID-19 has quickly become a pandemic, killing more than six million people worldwide. The aim of this study

is to investigate the morbidity and mortality of COVID-19 in one Bulgarian hemodialysis center.

Materials and methods: The study is retrospective, conducted for the period of 25th Apr 2020 – 31st Dec 2021. The mean annual number of hemodialysis patients was 184, including patients with end-stage renal disease and acute

renal failure. The total number of patients with COVID-19 was 78 (42%), 49of which (63%) were males, the average age was 60 years (+/-12.1 years).

Results: There was no significant difference between the mean age of patients divided by sex (p=0.069). A total of 33 people died (42%), 17 of whom (51%) were males. The average age of the deceased patients (64.24 +/- 10.846) was higher than that of the survivors (58.44 +/-12.286), and the difference was significant (p=0.034). There was no significant difference in the mean age of survived and deceased males (p=0.74) but for females, the difference was statistically significant – the mean age of survivors was 55.00 (+/-12.03)and of the deceased patients was 67.6 (+/-8.79) years.

Conclusion: Our results confirm data from similar studies aboutthe high incidence and mortality of COVID-19 in hemodialysis patients. We confirma statistically significant increase in mortality of these patients with increasing age. Probably the mass vaccination of patients and staff; the use of antiviral drugs and biological therapy is the way to reduce morbidity and mortality among them

G 7.8 Borisov BK, Gospodinov KD, Hitkova HY. Incidence of the Infective Endocarditis in Patients with Tunneled Catheters in One Bulgarian Dialysis Center per Year. Journal of IMAB, 2022, Jan-Mar, 28(1): 4389-4392; ISSN: 1312-773X

ABSTRACT

Background: Infections are common complications among patients on chronic hemodialysis. Catheter-related bloodstream infections (CRBSIs) are estimated to be 0.15 to 3.5 cases per 1000 catheter-days (CD) in case of tunneled catheters, and the frequency of bacterial endocarditis is estimated at 3.5 to 10% of these.

Materials and methods: We retrospectively present data from the study, which was conducted in our clinic for a one-year period from January 1 to December 31, 2018. The average number of patients undergoing hemodialysis was 104, and 33 (32%) of them had tunneled catheters. There was 12 045 total CD. We took chemocultures of all patients with clinical signs dubious about CRBSIs. All patients with positive chemocultures were examined by echocardiography.

Results: We have found 19 episodes of CRBSIs in 15 patients (1.5/1000 CD). We found a total of 21 causative microbial agents in positive chemocultures, two of

which were polymicrobial. Thirteen of the bacteria (62%) were Gram-positive [G (+)] and eight Gram-negative [G (-)] (38%). The most common G (+) bacterium was Staphylococcus aureus 9 and G (-) – Citrobacter coseri. In six patients (32%) with CRBSIs, we found bacterial endocarditis. Four of them (67%) were infected with G (-) negative agent, and two (33%) – with G (+).

Conclusions: We conclude that our high incidence of bacterial endocarditis is probably due to the fact that we have examined all of the patients for this complication and that gram-negative bacteria are more often the cause of bacterial endocarditis in patients undergoing hemodialysis with a tunnel catheter.

G.8.1 Б. Борисов, Е. Борисова. Баланс на водно-разтворимите витамини при пациенти на диализно лечение. Medical Magazine, 2023, бр.113, стр. 30-33; ISSN: 1314-9709

Резюме. Броят на пациентите с терминална бъбречна недостатъчност, лекувани с диализа нараства ежегодно. Тези болни получават редица диетични ограничения, свързани както с основното заболяване, също така и с методиката на лечение. Така се достига до дефицит на водно-разтворими витамини, които е уместно да бъдат внасяни допълнително.

Целта на този обзор е да даде някои практически насоки, свързани с клиничните прояви на витаминен дефицит и възприетите дози и начини на провеждане на суплементация при диализните пациенти.

G8.2 Борисов Б. Роля на мастно-разтворимите витамини при пациенти на диализно лечение. Medical Magazine, 2023, бр.114, стр. 38-40; ISSN: 1314-9709.

Резюме. Броят на болните, лекувани с диализни методи нараства в световен мащаб и тази тенденция ще се запази поне в близките 20 години. Хранителните ограничения при тези пациенти водят до недостатъчност на редица витамини и микроелементи, които често изискват допълнително заместване. Цел на настоящия обзор е да представи тенденциите за променения прием и биологична наличност на мастно-разтворимите витамини при пациентите, лекувани с диализа и да покаже тенденциите, свързани с необходимостта от тяхното допълнително включване в лечението им.