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33

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: 03.01.50 „

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, . .

, 2013

214
 : 40 , 97 6 .
 204 , 8 196
 .

” “
 ” “, - 20.03.2013 .

” - . “, .
 ,
 8- ,
 -
 ” , ,
 “ - - .

22.05.2013 . 11⁰⁰ . „ ” -

		:	
1.		1
2.		2
3.		4
4.		1:	
		:	
1.1		7
1.2		10
		2:	:
2.1		17
2.2		29
		3:	rHuEPO-β 43
		4:	
-		46
		5:	
		49
5.		55
6.			
		,	33 57
			,
	33		58
7.		59
8.		60
9.		61
10.		63



(Fe)

Fe-

: (2) , , - ,

.

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Fe

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(. .)

(

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Fe,

),

() ,

(

),

(VLBWI) (ELBWI)

.

() .

/

Fe,

Fe,

(Rbc),

. VLBWI ELBWI

()

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“ () . ”

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: ,
EPO (rHuEPO), Fe .

rHuEPO.

30

(. .).



1.

1.1

2.1

Tf, sTfR, Fe, TIBC.

2.

- rHuEPO- ,
- ,
- -
-

2.1

2.2

3.

rHuEPO-

4.

- ,
- - ,

•

rHuEPO- .

5.

, (, ,), ,

6.

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, 33 . .

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33
”
” , 2004 -
2012 .
310 . 11.

• $\frac{-}{202} \frac{, 2004 .}{-} \frac{, 2009 .}{(5 - 3)};$
2 -

• $\frac{-}{-} \frac{, 2009 .}{, 3 -} \frac{, 2012 .}{6 (3 -)};$ 108
);

: rHuEPO- ,
(, ,),
(, ,).

1. . . 33 . .
3 , :

(New

Ballard Score) [Ballard JL, 1991]

- 2.
- 3.
- 4.

(3)

- ;
- 39 (. . .);
- 2.
- (=>
-).

-
- ;
 - ;
 - ;
 - ;
 - (28);
 - ;
 - (28);
 - .

rHuEPO- 299 ,
 (29 . . . 30-33 . .)

- (. .)
- - (- , n 192;
 - , n 107);
 - (- , n 195; -
 - , n 104);
 - (- , n 148;
 - , n 151);

- (- , n 78; - , n 221).

rHuEPO- (-

4) - :

- *rHuEPO-* - 1 (; n 192) 0 (; n 107);
- : - 7. - 1 (,
- 8. 28. . : - 1 (
- ; n 42) 2 (; n 150),
- 0 (- ; n 107).

- ((n 192):
- . : 1 (; n 138)
- 0 (; n 54).
- . : 1 (; n 29), 2 ((;
- n 92). 16 ,
- . (; n 58)
- (; n 134).
- (28) , .

(n 102).

51) 30-33 (n 51), . . . 29 . . . (n

- - (- , n 59;
- (, n 43)
- (- , n 67; -
- , n 35)
- (- , n 51;
- , n 51)
- (- , n 33; -
- , n 69)

()

1 – (n 50). 29 . . . ,
 : 0 – (n 75),
 :

Hgb	TIBC
Hct	Fe
MCV	Ferr
MCHC = Hgb / Hct	Tf
Ret	sTfR
	SatTf (%) = [Fe/TIBC]x100
	27, 30, 33, 36 39 . . .

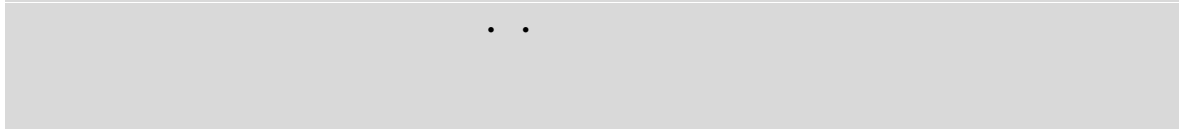
- COBAS INTEGRA 400;
 -
 - MICROS
- STATGRAPHICS v. 4.0; SPSS v. 13.0 EXCEL for Windows.
- (; ; ;).

- t- Student Analysis of Variance (ANOVA) post hoc LCD, Tukey HSD, Scheffe, Bonferroni, Newman-Keuls, Duncan

- ²- Pearson, - Kruscal-Wallis

< 0,05.

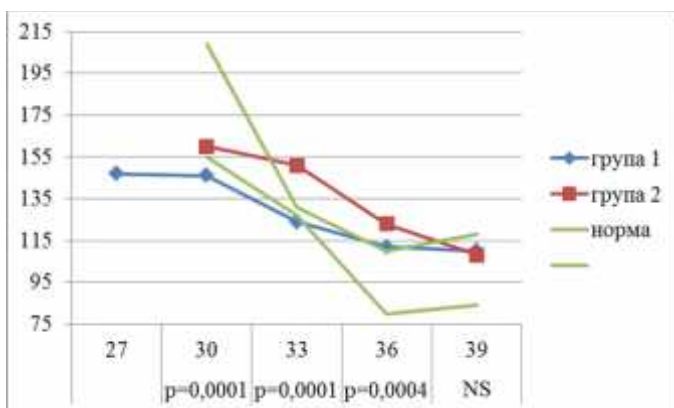
1.1



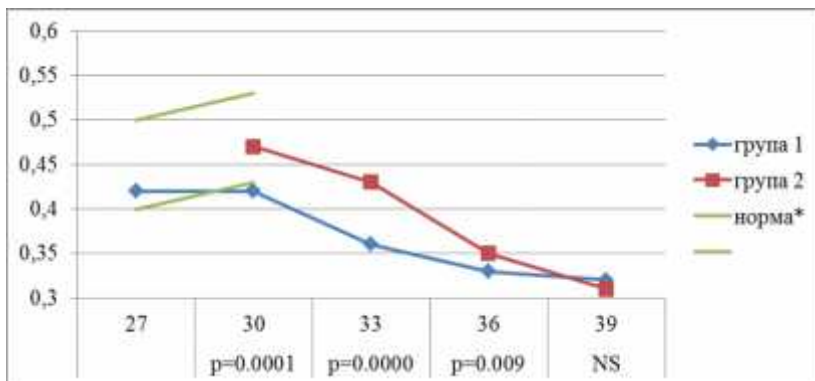
2 - : 1 29 .. (n 135),
30-33 .. (n 164).

Hgb Hct

Hgb Hct : Hgb 147±25 g/l 109±19, Hct -
0,43±0,07 27 .. 39 .. -
(.. 30-33 ..) -
Hgb Hct ,
33 36 .. .



. 1: Hgb
[g/l] - 1 (29 ..)
2 (30-33 ..)

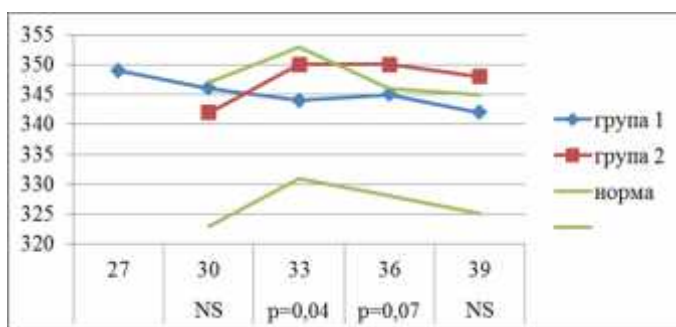


* 1 ;
30 ..

. 2: Hct - 1 (29 ..) 2 (30-33 ..)

349±33 g/l 27 . . . 345±26 39 . . .
 ,
 2 33 36 . . .

2,



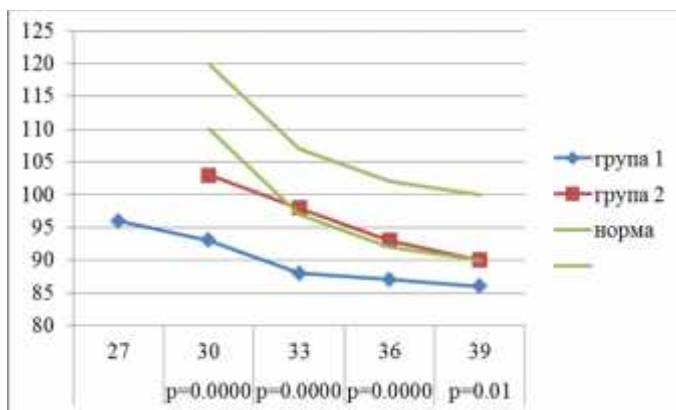
3:

1 (29 . .) [g/l] -
 (30-33 . .) 2

V

96±8 fl 27 . . . 88±6 fl 39 . . .

2



4:

1 (29 . .) V [fl] -
 (30-33 . .) 2

Ret

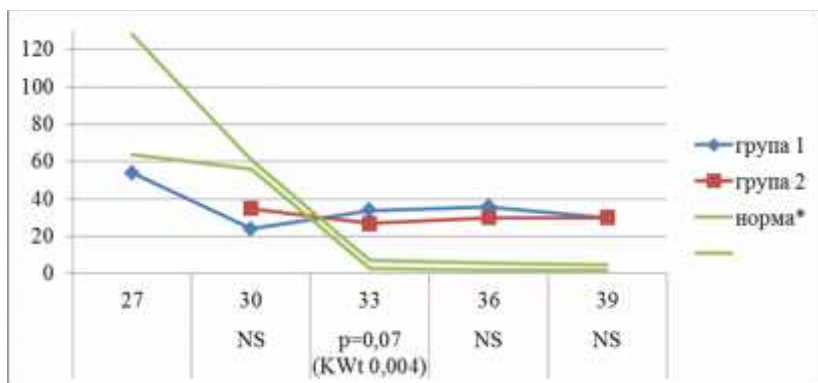
Ret

(54±48⁰/00)

36 -39 . . .

33 . . . ,

1.



*
I
5:
Ret
[⁰/₀₀] – 1 (29
. .) 2 (30-33
. .)

1
[Alur, 2001; Carley , 2003; Forestier F, 1986; Zaizov R, 1976]

– Hgb Hct,
2-

2.
33
33

V
V

Rbc. V Ret 1 33) .

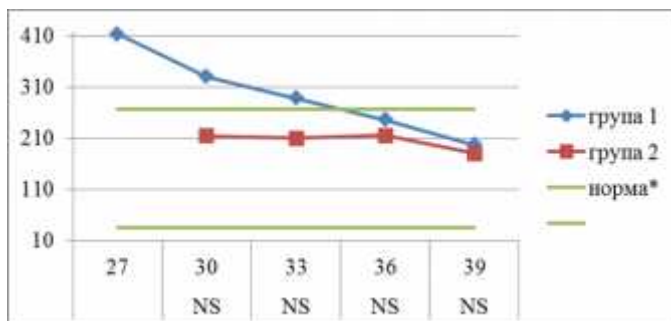
1,

2

1.2

102

Ferr



* [Sidappa, 2007]

6: Ferr 2

1 (29 . .)

(30-33 . .)

30 (302±132),

33 ,

2

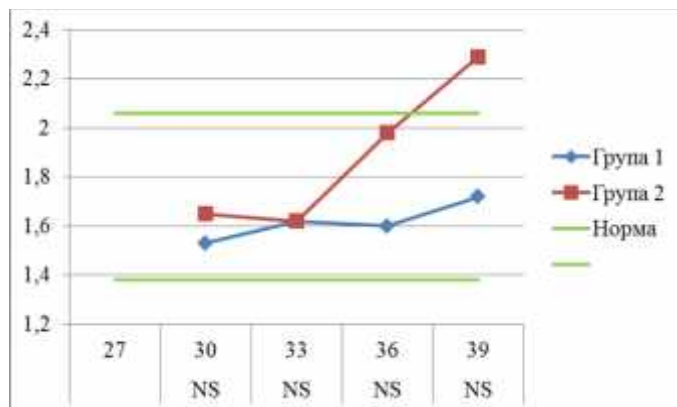
Tf

Tf

1.56±0.29 2.03±0.92 g/l).

(. . 7),

39



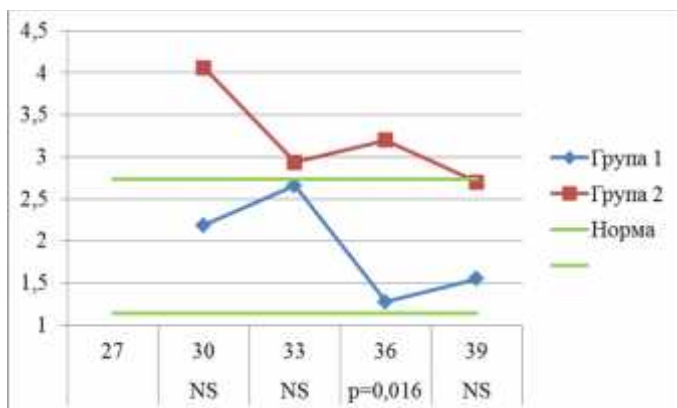
. 7: Tf [g/l] – 1 (29 . .) 2 (30-33 . .)

sTfRs

sTfRs

mg/l 30 . . . 2.36±1.45 39 . . .). Coeff. of variation (60÷75%),

1 (2.82±1.71



. 8: sTfRs [mg/l] – 1 (29 . .) 2 (30-33 . .)

(. . 8),

2,

1

Ret).

36

2.

33 (

Fe

Fe,

Bechensteen et al [32] cut off

9 $\mu\text{mol/l}$,

: 40%

27

... , 15% 30

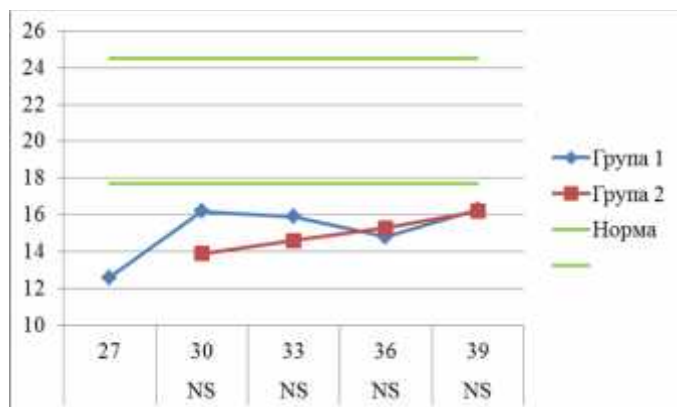
... , 9% 33

... , 8% 36

... 6% 39

...

Ferr



. 9: Fe
 $[\mu\text{mol/l}] - 1 (29 \dots)$
 $2 (30-33 \dots)$

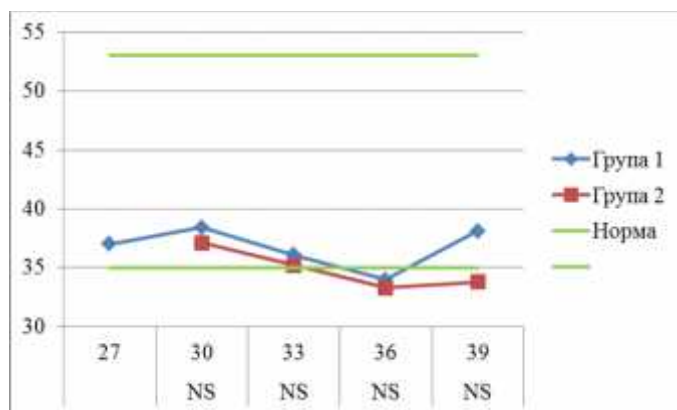
TIBC

36

TIBC

Tf Fe.

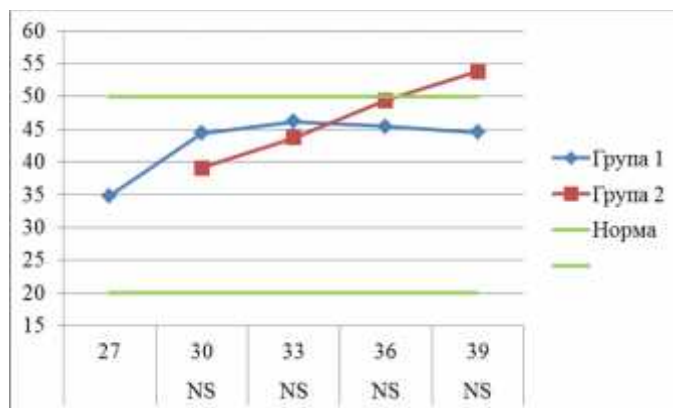
Fe



. 10:
 $TIBC - 1 (29 \dots)$
 $2 (30-33 \dots)$

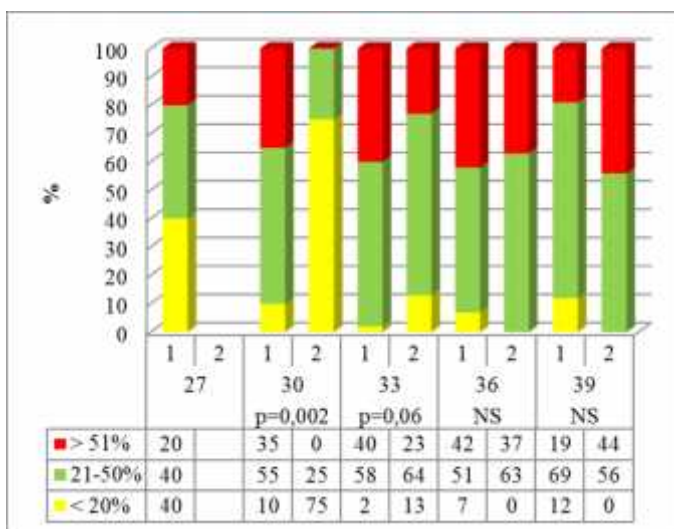
SatTf (. 11)

SatTf



11: SatTf – 1 (29 . .) 2 (30-33 . .)

3 :
 (SatTf < 20%), (SatTf 21-50%)
 (SatTf > 51%).



12: – 1 (29 . .) 2 (30-33 . .)

- 1: 40%
- 2: 75%

•

30 33 . . . (- %
1).

Ferr ,
Ferr ,
30 . . ,
Siddappa et al
Ferr 35, - 267 µg/l. 35
, 267 -
(-).
Ferr , -
Ferr- 1
: , , ,
Ferr .
-
,

Tf 1 . . [De Alarcon PA, 2005]
Fe.
Fe, . . -
SatTf e ,
2 Tf.
[Kling PJ, 1998, 2002].
2 36 . . . ,
-
-
- **Fe** - 5
Ferr (), Tf
(), sTfR
(),

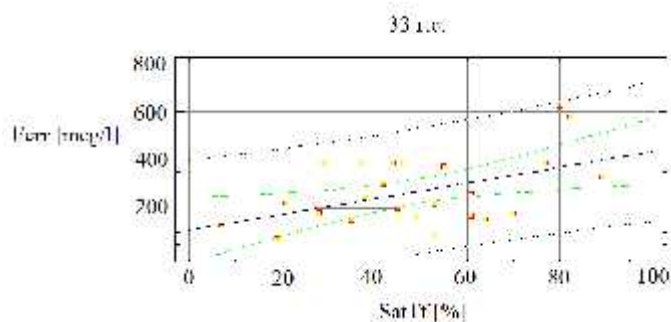
TIBC SatTf (*Fe*), , ,

Ret, Fe, TIBC (SatTf) Ferr.

Ferr SatTf,

33 , 36 39 . . .

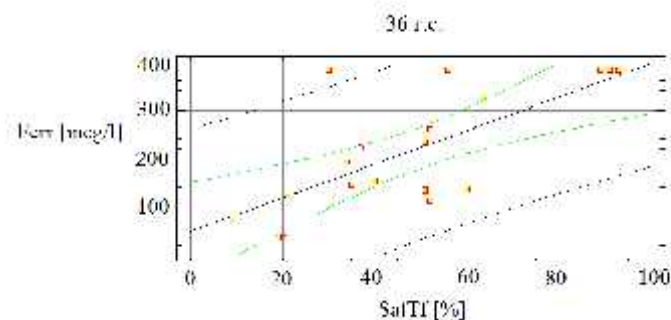
Ferr SatTf,



. 13:

Ferr SatTf 33

. . . : $Ferr^{33} \dots [mcg/l] = 107,032 + 3,249 \times SatTf [\%]$



. 14:

Ferr SatTf 36

. . . : $Ferr^{36} \dots [mcg/l] = 48,832 + 3,476 \times SatTf [\%]$

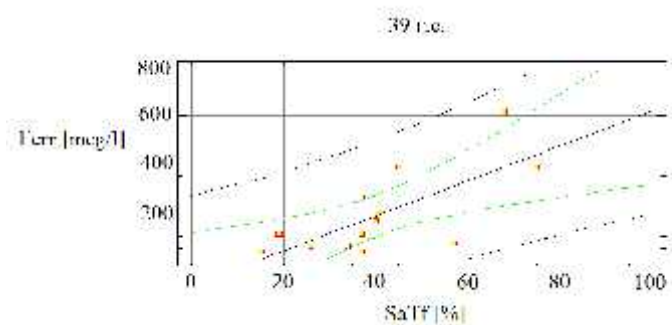


Fig. 15: $Ferr^{39} [mcg/l] = -106,525 + 7,231 \times SatTf [39\%]$

2.1

rHuEPO-

(n = 299) ... 29 ... 30-33 ... (Hgb, Hct) ... 33 ... Hct ... (n = 16), ... (n = 17)

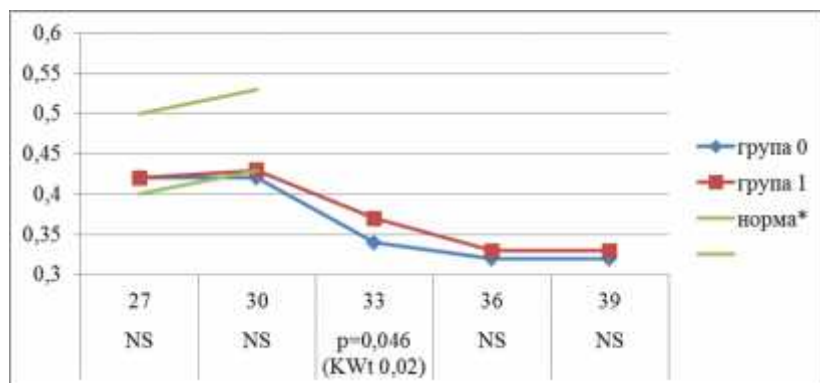
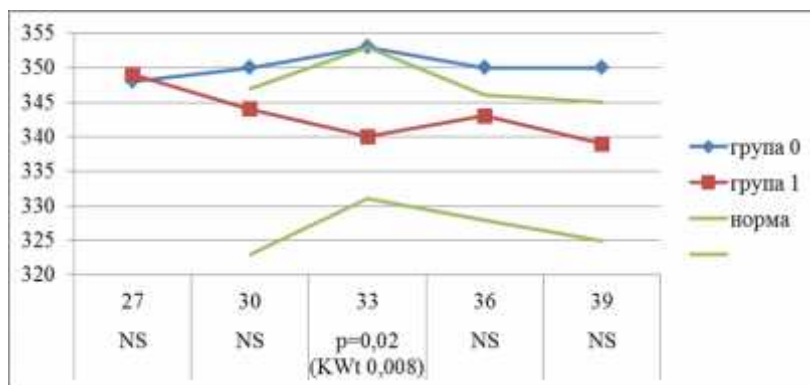
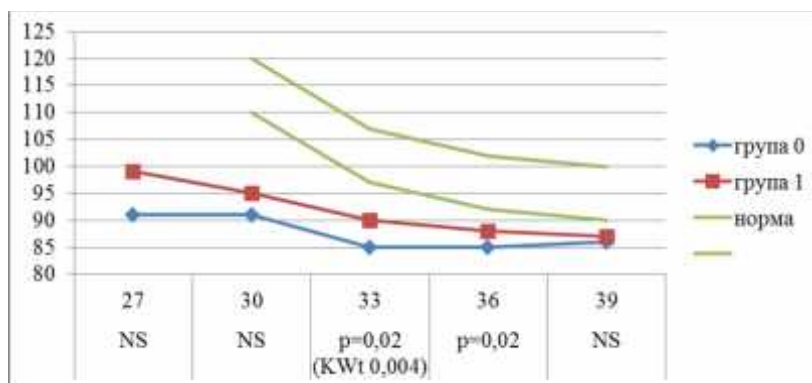


Fig. 16: Hct ... (n = 0) 29 ... (n = 1)



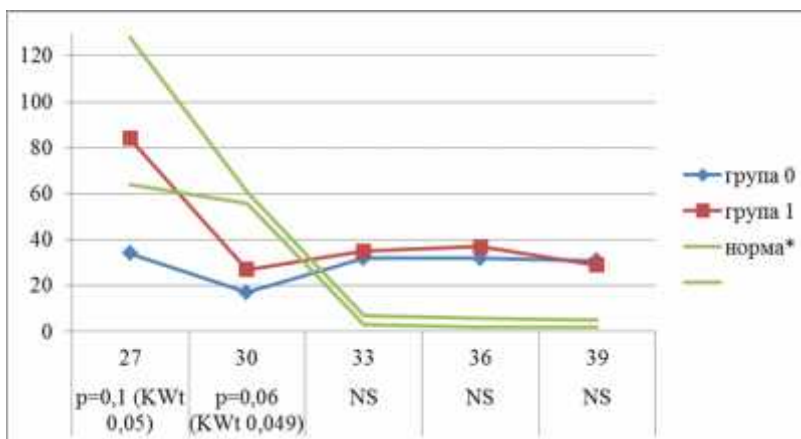
17: $MCHC [g/l]$ – (0) 29 . . . (1)

V , 33
 29 . . . (. 18),
 36 . . . ,
 V
 V
 V



18: $MCV [fl]$ – (0) 29 . . . (1)

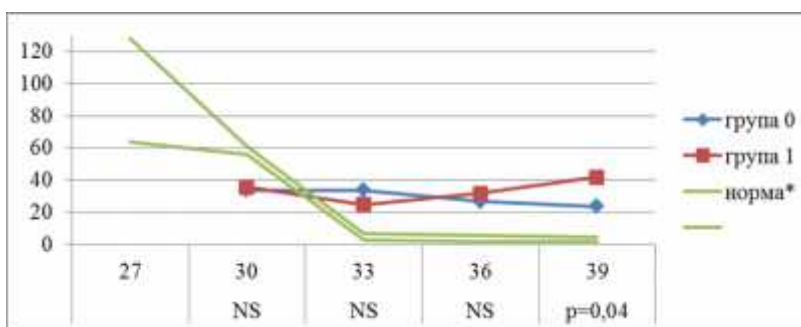
V
 Ret
 29 . . .
 30 . . . ,
 rHuEPO.



*

1

19: $Ret [^0/00] - (0) 29 \dots$ (1)



*

1

20: $Ret [^0/00] - (0) 30-33 \dots$ (1)

rHuEPO

Hgb Hct,

[, ., 2005; , ., 1997; Carbonell Estrany X, 1999; Killian A, 2002; Meyer MP, 2003] rHuEPO

, Ret

rHuEPO

Carbonell Estrany X, 1999; Maier RF, 2002]

29 . . .

Hct, -

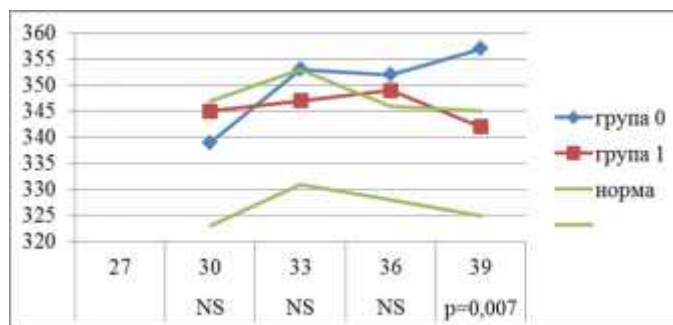
V Ret

33 . . .

Hgb Hct ,
 ,
 V ; -
 - **Rbc** - **Hgb-**
 .
rHuEPO -
 - Hgb Hct
 ,
 - , -
Fe , .



29 . . , - ~ 84% ,
 - 50% ,
 - , - ,
 - ,
 - ,
Hgb Hct
 27 30 . . , -
 Hgb Hct, -
 -
 (= 0,044 0,049).
 -
 -
 (. 21).



21: MCHC [g/l] – (1)
 (0) 30-33 . .

V

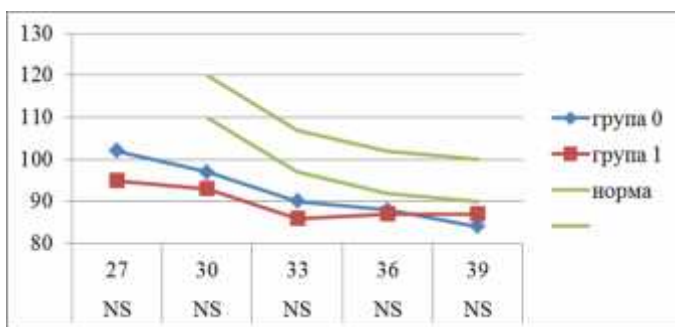
29 . . ,

V,

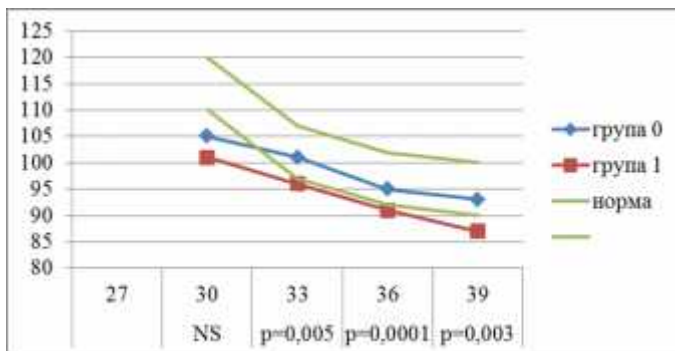
(. 22).

V

(. 23).



22: MCV [fl] – (0)
 1) (0)
 29 . .



23: MCV [fl] – (0) 30-
 1) (0) 30-
 33 . .

Ret

.
 : Hgb -
 2 , -
 , Fe -
 . ,
 1000 . -
 rHuEPO

. [Maier RF, 1996; Winzerling JJ, 2001]

, - , -
 . , ,
 , ,

Hgb Hct - Hct :
 -

Fe,

, V ,
 29 . . , - ,

V

V



38,5% 29 ... , 1/3 , ,

30-33 ... -

1/3

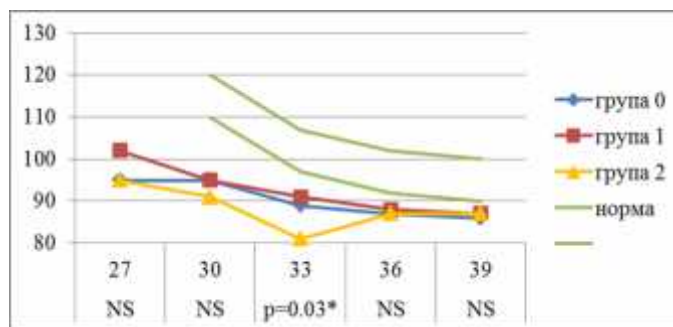
1/5 , 29 ...

Hgb Hct

V

2 33 ... , (. 24).

0 1



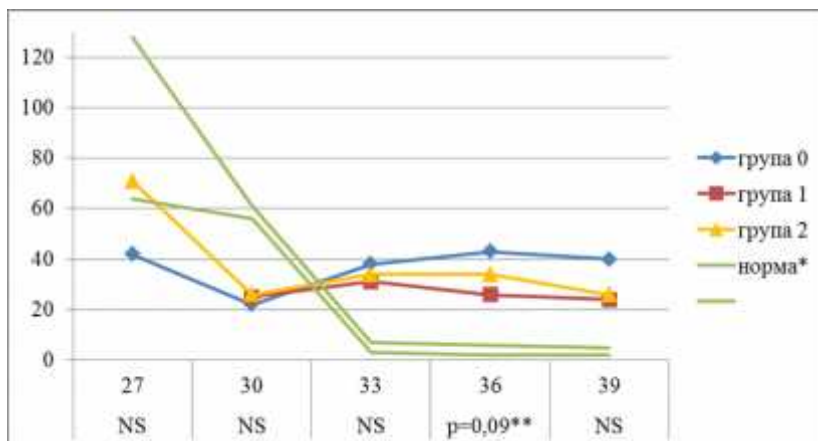
* 0-2 1-2 (0-1)

. 24: V [fl] - (0),

(1) (2) 29 ...

V -

Ret



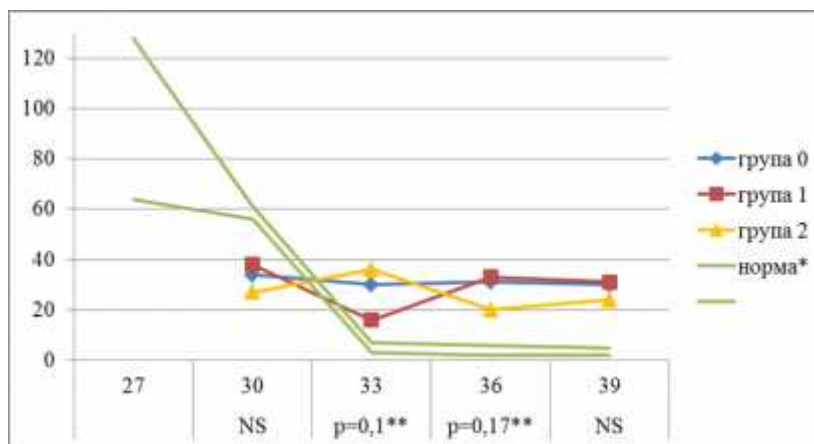
* I [Alur P, 2000; Carley, 2003; Forestier F, 1986; Zaizov R, 1976]

**

. 25: Ret [0/00] – (0),
 (1), (2)
 (3) 29 . .

30 . . . ,

0 1 36 . . .



* I [Alur P, 2000; Carley, 2003; Forestier F, 1986; Zaizov R, 1976]

**

. 26: Ret [0/00] 30-33 . . – (0),
 (1) (2)

- (. 26) Ret

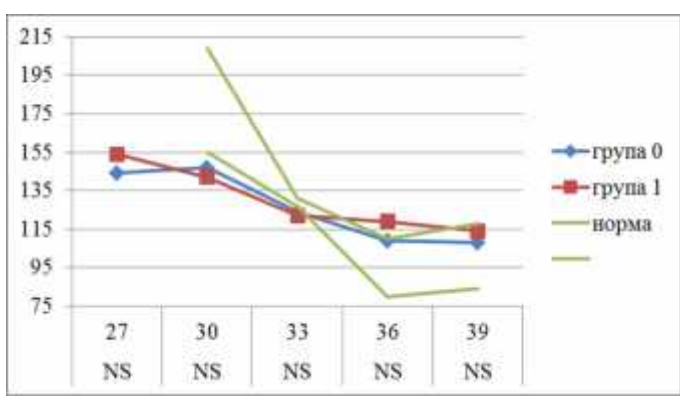
33 36 . . . 1 2,
 (Duncan).

: , - ,
 Fe.
 ,
 .
 66% , 29 . . , 36%
 . . 30-33 . .
 ,
 - ().
 (16)
 , .
 (29 . . -
 -) (.
) . ,
) , **Ret** (-
 , 33 . . . ,
 .
 V
 , 1. „ " -
 ,
 . - -
 , (- -
) , ,
 - .
 -
 -
 .

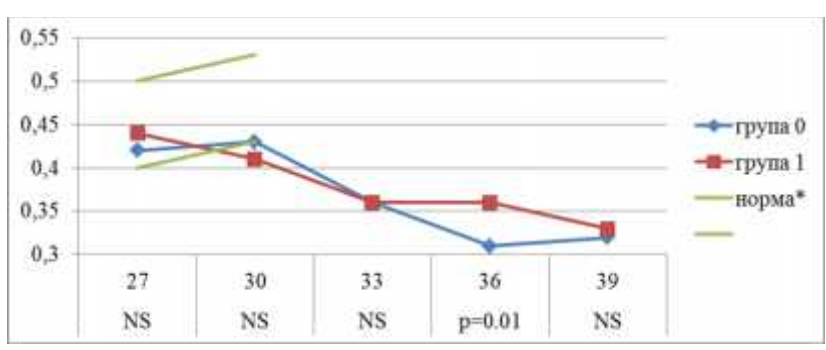
0

135 , 29 . . . ,
 : 1 - (n = 36)
 0 - (n = 99).
 , 29 . . . , -
 (=0,003). , 30 33
 . . . , ~ 100 - (=0,01), -
 (=0,005) - (=0,006).

Hgb Hct
 Hgb Hct , -
 - (. 27, 28). 36
 1 (),
 Hct.
 - Hgb
 Hct,



. 27: Hgb [g/l] (0)
 (1) 29 . . .

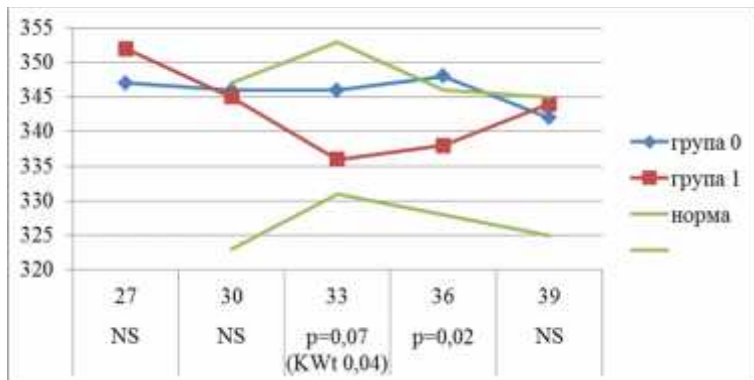


. 28: Hct (0)
 (1) 29 . . .

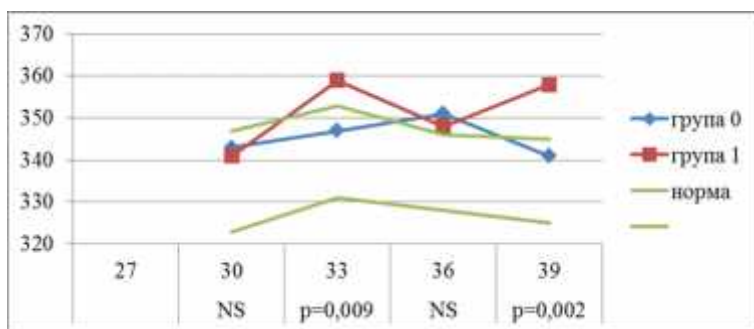
* 1 ;
 30 . . .
 [Alur P, 2000; Carley , 2003; Forestier F, 1986; Zaizov R, 1976]
 (0)

33 36
(. 29).

33 39 (. 30).



29:
[g/l]
(0)
(1) 29



30:
[g/l]
(0)
(1) 30-33

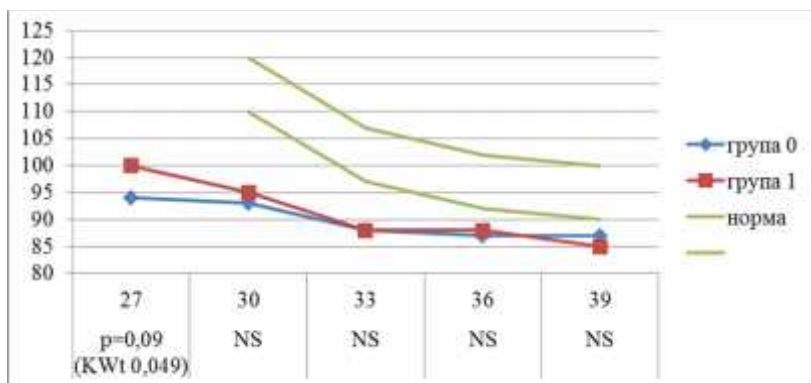
V

V,
0.

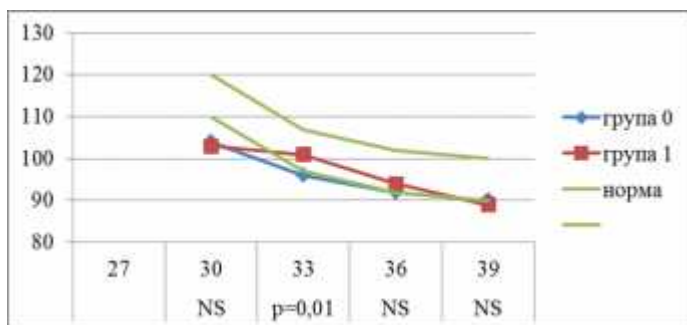
1 ()

V

33,
0 (. 32).



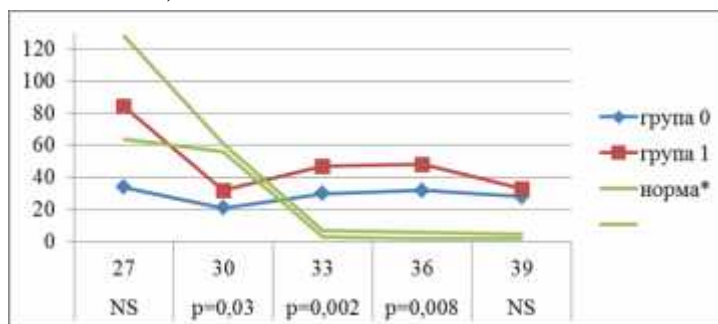
31:
V [fl]
(1)
0) (1)
29 . .



32:
 $V [fl]$
 (0) (1)
 30-33 . .

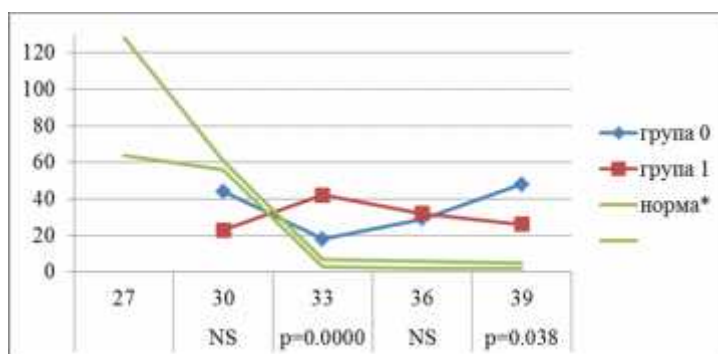
Ret

~ 2,5
 (. 33),
 30 , 33 36 . . .



* I [Alur P, 2000; Carley , 2003; Forestier F, 1986; Zaizov R, 1976]

33: $Ret [^0/00]$ (0)
 (1) 29 . .



* I . 34: $Ret [^0/00]$ (0)
 (1) 30-33 . .

2.2

• rHuEPO,

-
-
-
-

• rHuEPO-

(102 , 33 . .)
 : 0 (; n 43)
 1 (rHuEPO, n 59).

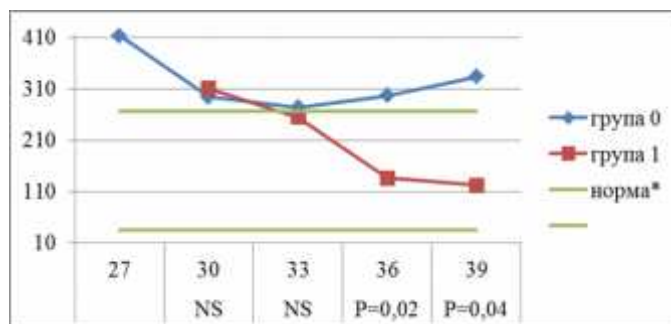
Ferr

Ferr

36 39

Ferr

95



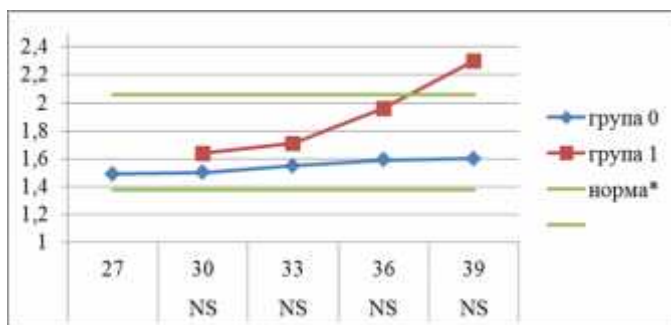
*
 [Siddappa, 2007]

Ferr [µg/l] - 35:
 - (0)
 - (1)

Tf

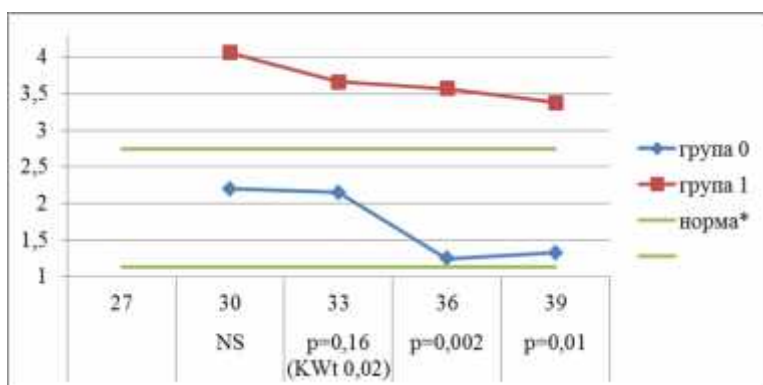
rHuEPO

Tf.



*
 . . . 1 . [De Alarcon PA, 2005]
 . 36: Tf
 [g/l] - -
 (0) -
 (1)

sTfR

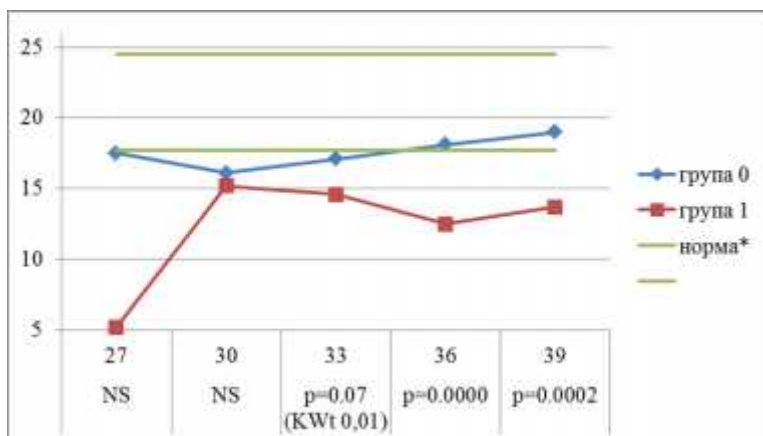


*
 . . . 1 . [De Alarcon PA, 2005]
 . 37: sTfR [mg/l]
 -
 (0) -
 (1)

sTfR

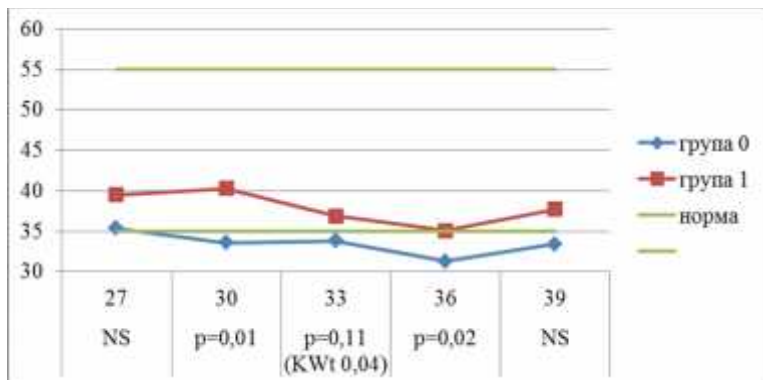
Fe TIBC

Fe -
 33 ,



*
 . . . 1 . [De Alarcon PA, 2005]
 . 38: Fe [µmol/l]
 -
 (0) -
 (1)

Fe - , TIBC
 30 36 . . .
 (. 39).



. 39:
 TIBC [$\mu\text{mol/l}$] -
 ()
 0)
 (1)

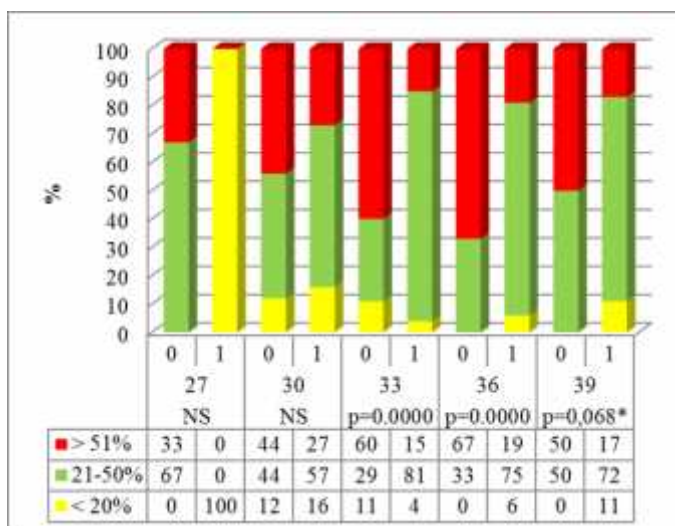
TIBC

Tf

SatTf

SatTf

33 36 . . . ,



**p* (Pearson's *R* / Kendall's *Tau* *b*) = 0.01 / 0.02

.40:

SatTf [%] -
 (0)
 (

1)

rHuEPO,

Siddappa AM, 2007; WHO, 2004].

[Friel JK, 2005;

[Akisu M, 2001].

Ferr Fe, Tf, sTfR, TIBC SatTf.
 Ferr sTfR, - - - 33 -36

-
-

Fe TIBC -

0.

Fe,

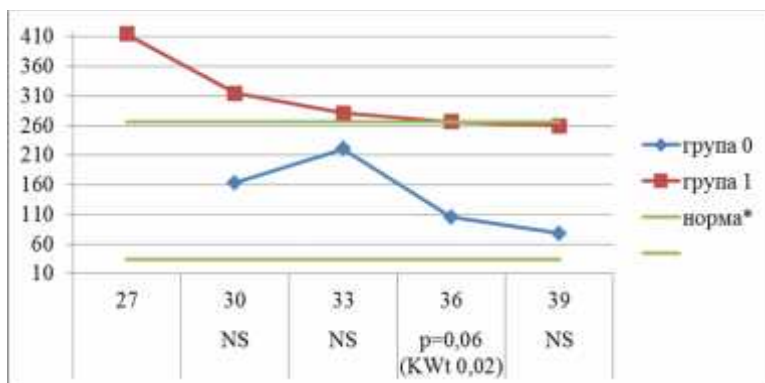


102

0 - 28 (1) - ~ 1,5 . . (=0,0003) ~ 200 g
 - (=0,004).
 - (=0,0001)
 (=0,0009).

Ferr

1 - Ferr,
 - Ferr
 95 0 Ferr
 33 . . . , - Ferr



* [Siddappa, 2007]
 41:
 Ferr [µg/l]

(0)
 (1)

Tf

Tf

0,

36 39,

Fe

28

,

:

•

,

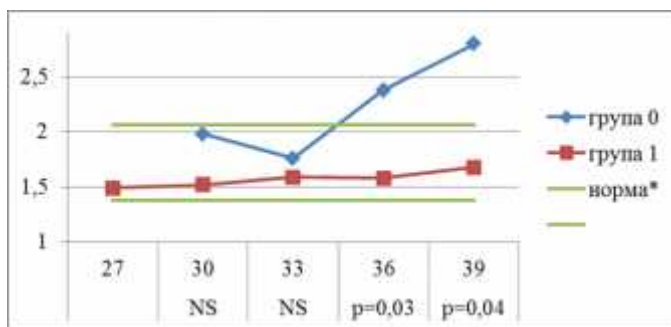
•

(28)

)

Fe,

Fe-



* [De Alarcon PA, 2005]

42:
 Tf [g/l]

(0)
 (1).

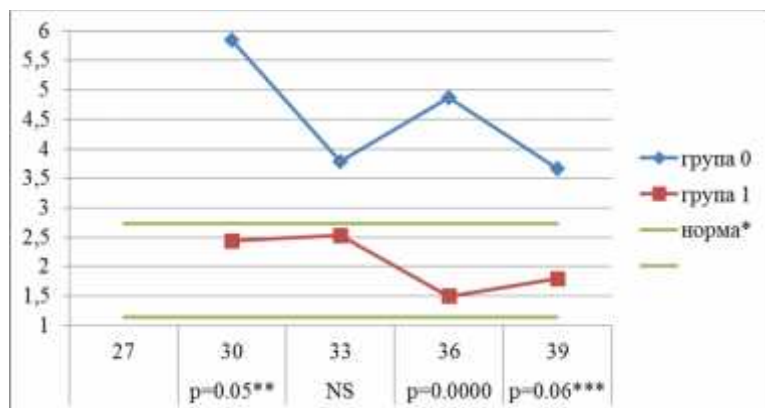
sTfR

(-)

0 (. 42):

30 33,

36 39,



*
... 1
[De Alarcon PA, 2005]

**

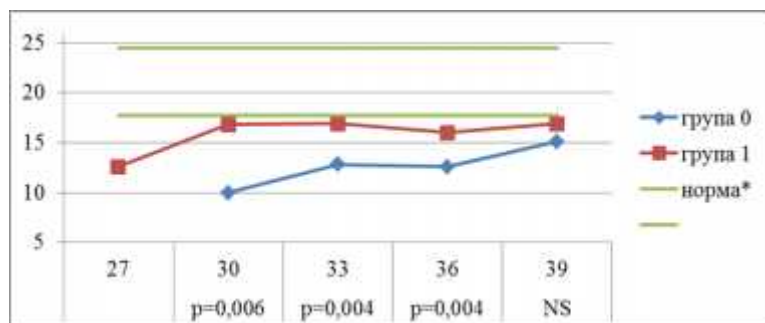
0) . 43: sTfR [mg/l] (1)

Fe TIBC

(1)
Fe 30 , 33 36 ,
(. 44).

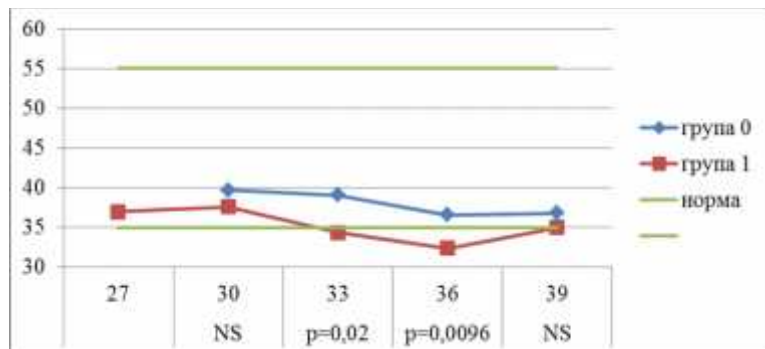
Fe

Fe



*
... 1
[De Alarcon PA, 2005]

. 44:
Fe [μmol/l]
(0)
(1)

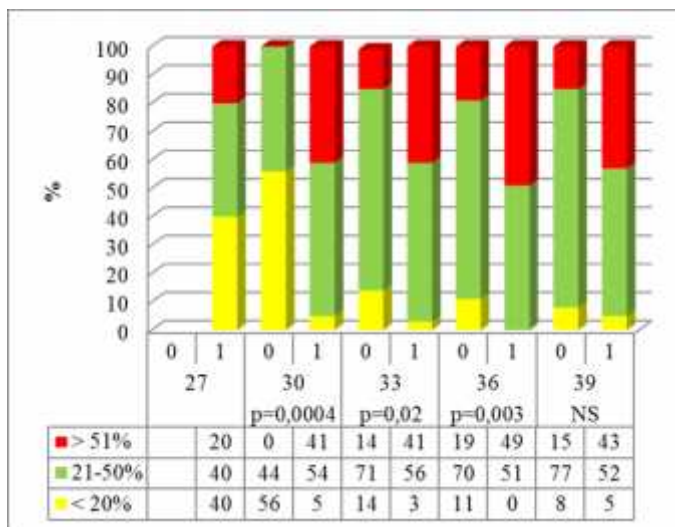


. 45:
TIBC [μmol/l]
(0)
(1)

TIBC 33 36 (. 45).

Fe

Tf.
Fe,
Tf - *Fe*-
Fe-
SatTf
 0 30
 1,
 1/3 , 3 -
 30 , 33 36



46:
SatTf [%]
 0 ()
 1 ()

Hgb *Fe*,

ELBWI

[Franz AR, 2001; Istaphanous GK, 2011; Kirpalani H, 2006]

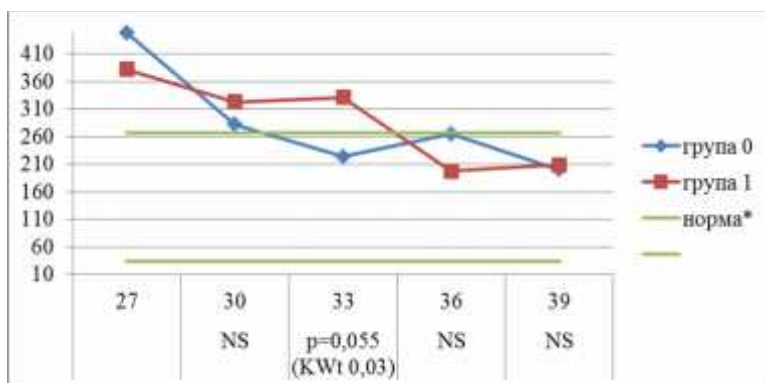
[Basile LA, 2004; Brittenham GM, 2004; Fleming RE, 2012; Fredrickson LK, 2011; Handbook of iron overload, 2010]

Fe-
45%
Fe-
Tf, Fe



2 : 0 - (n 51), 33 . . ,
(n 51). ~ 1 . . - 1 -
(=0,002), (=0,02),
(=0,002), (=0,01),
(=0,001).

Ferr



*
[Siddappa, 2007]

47:
Ferr [µg/l]

(0)
(1)

Ferr, 95

Ferr

Fe

33

Tf

33

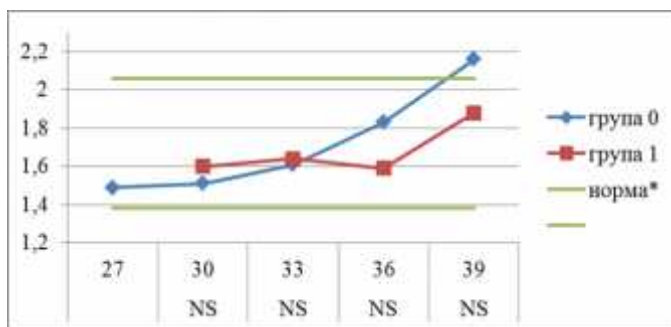
Fe

Tf ()

36. . . . ,

Tf

(Fe)



* . . . 1 . [De Alarcon PA, 2005]

. 48: Tf

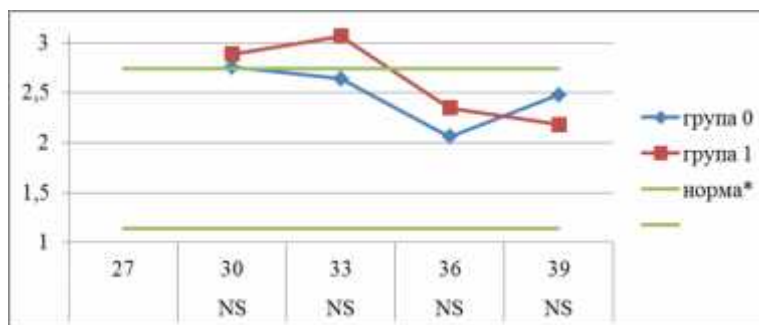
[g/l]

(0)

(1)

sTfR

36 ,

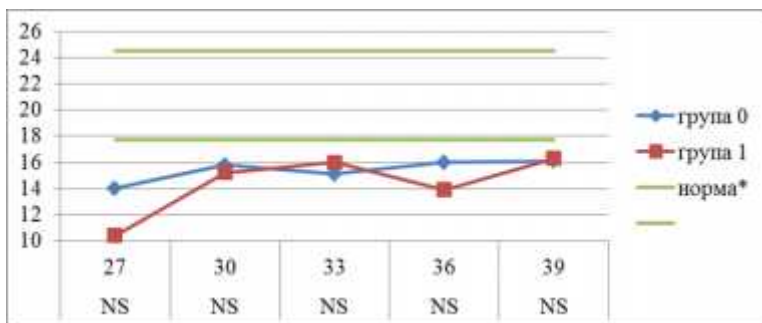


*

49: $sTfR$ [mg/l] (0) (1)

33 36 , 33
36

Fe TIBC



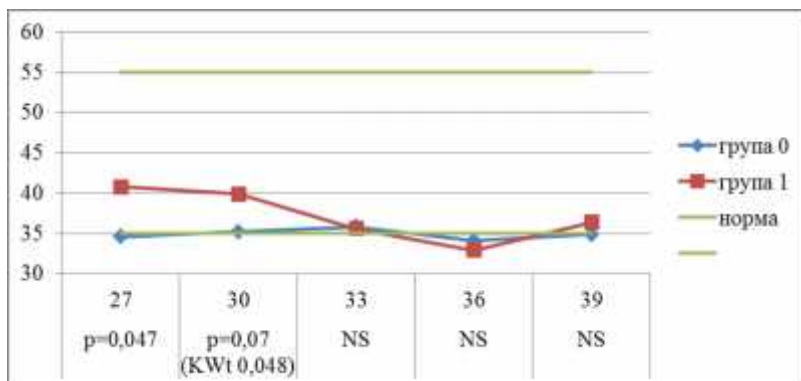
*

[De Alarcon PA, 2005]

50: Fe [μmol/l]

(0)

(1)



[μmol/l]

51: TIBC

(0)

(1)

Fe

TIBC,

TIBC 27

30

SatTf

Fe TIBC,

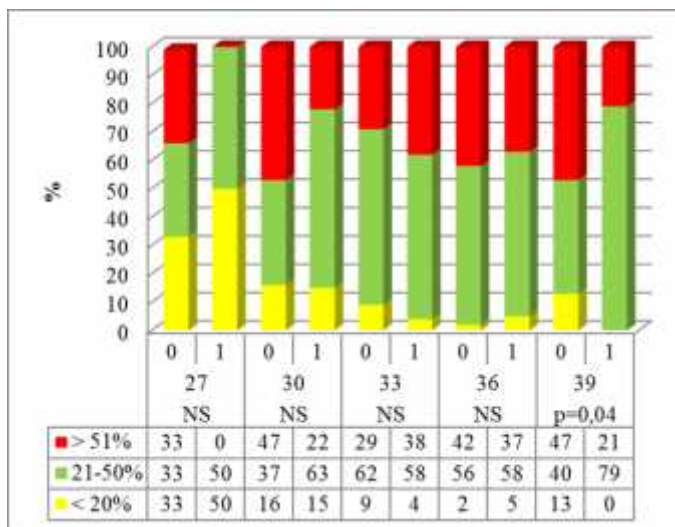
Fe

(3/4

Tf,

Fe

30.



52:

SatTf [%]

(0)
I)

33 ,
sTfR 33 , Fe
Fe TIBC,
Fe-

Tf 36 , -
TIBC 30
SatTf,
33 36

80%

Ferr

sTfR 33 -36 . . . ,

Fe TIBC

Ferr SatTf.



1/3

(=0,001) ,

(=0,02)

Ferr

Ferr
(415±47 µg/l),

198±164 210±212 µg/l).

Ferr
115 µg/l [Siddappa,
2007].

Tf

Tf

33 . . . ,

(2,29±1,22 mg/l).

Fe

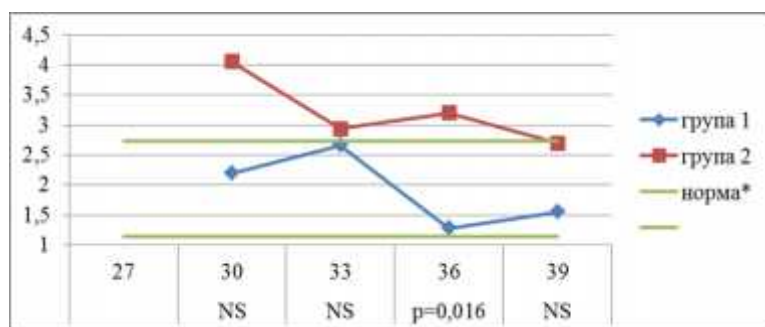
Tf.

sTfR

sTfR

sTfR

36



*

[De Alarcon PA, 2005]

53:
sTfR [mg/l]
() 1)
() 2)

Fe

Fe,

(16,3±4,8 16,2±4,5 μmol/l).

Fe

(17,7 μmol/l).

TIBC

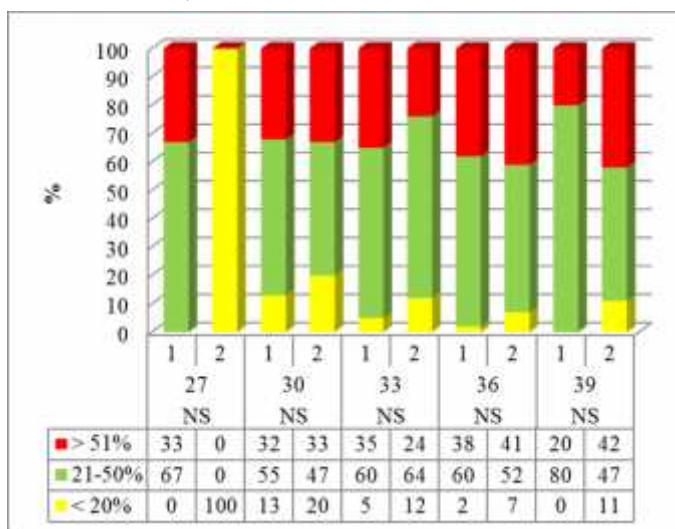
TIBC

Tf

Tf

Fe.
TIBC

SatTf



80%

SatTf

54:
(%)

(1)

(2)

(SatTf

33 . . . , sTfR - -
33 . . . , TIBC,

Tf -
Fe -

. [Bechensteen AG, 1993; Deborah L, 2004;
Schneider JK, 2008]

29 . . ,

3 7

27-29 . .

rHuEPO

29 . . rHuEPO

29

26 . . ,

rHuEPO,

rHuEPO,

[Rudzinska IM, 2002; Schneider JK, 2008].

[Kotto-Kome AC, 2004].

4. :
 • , - ,
 • - ,
 •
rHuEPO- .

, - ,
 Fe, -
 . , 29
 - ,
 . .
 (n = 135), 2 -
 rHuEPO- (1 - n = 100) (0 - n = 35).

•
 , - ,
 . ,
 , Fe,
 (2.2). [Maier RF, 1996; Winzerling JJ, 2001]
 86% . . . 30 . .
 29 . . - 58%
 56% 31 -33 . .
 29 . . , : 1 , 0
 . ,
 (=0,0004).
 , - (2.2).
 - 2
 - (0,5±0,7 1,1±1,1; =0,054).
 .
 :

0 - , 28
 :
 ➤ - ,
 ➤ - ,
 ➤ - .
 1. 0 1
 .. , 0 -
 - .
 29 ..



•
 :
 , - ,
 ,
 .
 - .
 -
 .
 : 1 (; n 21) 2 (; n 52), 0 (; n 46).
 . 2: - - 1 (),
 2 () 0 ()

	1	2	0	
n	21	52	46	-
. . (. .)	28±1,1	27,3±1,5	27,9±1,2	0,03*
()	1193±247	1051±221	1178±228	0,009*
(%)	17	32	48	NS
()	50±22	65±28	48±22	0,0014*
	0,9±0,9	1,6±1,3	0,6±0,7	0,0000*

* 0-2 1-2 (0-1) -

•
 :
 .. - , -
 .

• - , 29 . .



• - 29 . ., =0,003).

(1,0±1,0; 1,0±1,1).

(- 2.2).

29 . .,



5.

, , (. 3).

29 . . - 40%.

(n=10),

: 0 (. 4)

1 ().

1 - , - , 2 - ,

. (. 4)

. 3: , 33 . .

< 33 . .	11,4%	1,4%	3,6%	9,3%	21,4%* (n=60)
29 . (n=125)	24% (n=30)	3,2% (n=4)	4,8% (n=6)	16,8% (n=21)	40%* (n=50)
30 -33 . . (n=154)	1,3% (n=2)	0%	2,6% (n=4)	3,2% (n=5)	6,5%* (n=10)
^{2*}	17- 57%	4,6%	5-10% VLBWI	12-18% (2-30% . .)	-

*

^{2*} Avery, Robertson, Bancalari, Fanaroff

. 4:

	0	1	
n	75	50	-
. . (. .)	27,8±1,3	27±1,7	0,0017
()	1176±235	999±214	0,0000
(%)	1,0±0,8	1,9±0,9	0,0000
. (%)	32	20	NS
. (%)	37	70	0,0003
	0,7±0,8	1,8±1,4	0,0000
()	49±22	71±28	0,0000

5.1

Hgb Hct

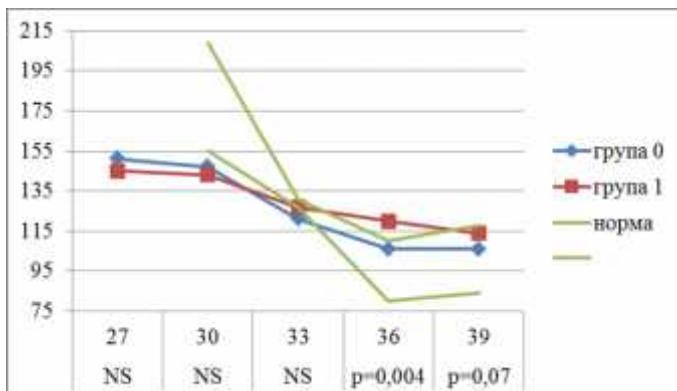
Hgb Hct

33

36

-

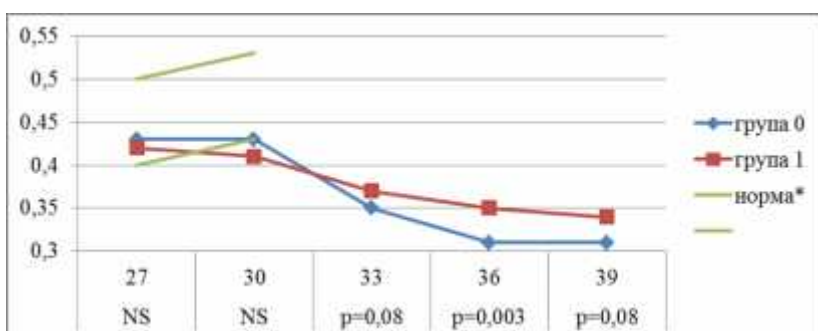
,



56:

Hgb [g/l]:

0 () 1 ()



*

1

30 . . . ;

57:

1 ()

Hct:

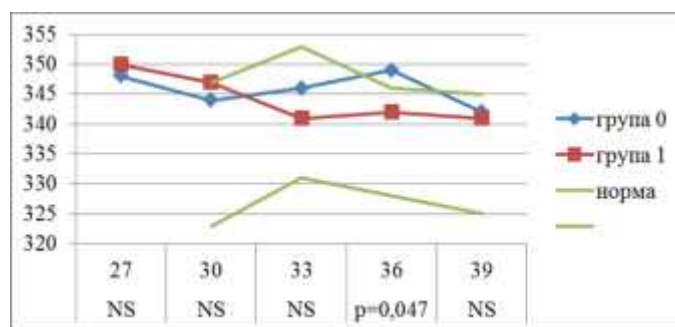
0 ()

1 (. 58).

33 . . .

36 . . . 1

0.



58:

[g/l]:

0 ()

) 1 ()

V

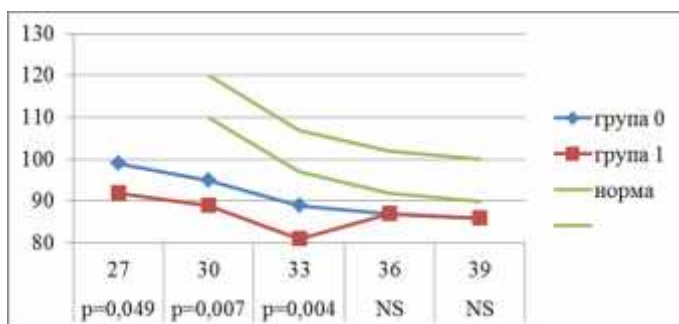
V

1:

1

33

V



59:

V [fl]:

0 ()

1 ()

Ret

1 (. 4),

1

rHuEPO-

()

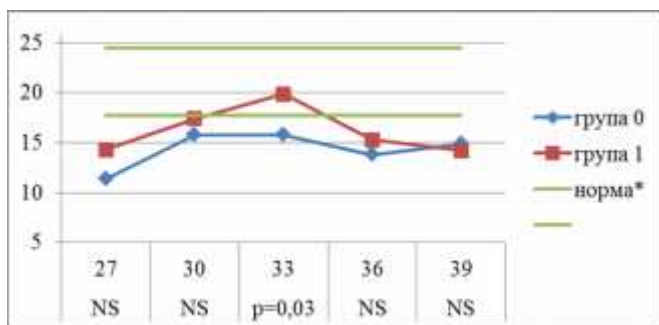
5.2

Fe

(. 60)

Fe 33 . . . ,

1.



*

... 1

60:

Fe [$\mu\text{mol/l}$]:

0 () 1 ()

)

TIBC

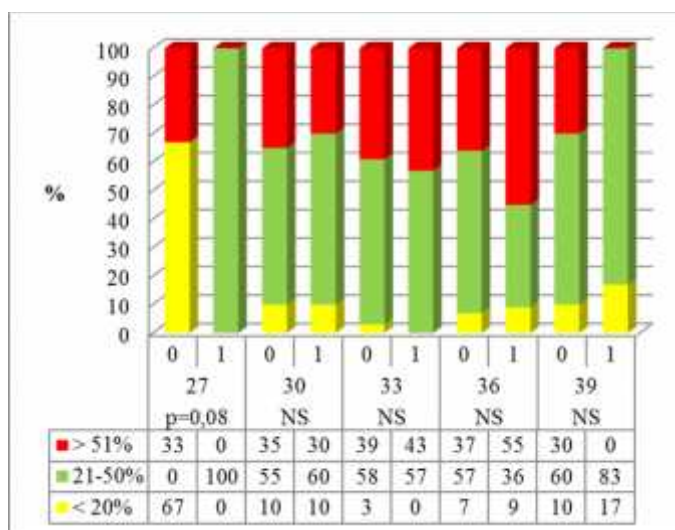
TIBC

30

Tf ,

Fe 1 -

1



61:

SatTf:

0 () 1 ()

)

V -

Fe,

V.

1:

-
-
-
-

2:

- -
 -
 -
- _____
- _____

Fe

29 . . ,

➤ 29 . . .

➤ , 30 -33 . . .

•

•

Ferr SatTf.

3:

•

rHuEPO

➤ . . . 27-29 . . .

➤ (8 28

).

•

. . . 29

. . .

4:

•

•

5:

•

•

Fe

:

33 . . .

1. _____: Ferr

2. $\frac{27, 30, 33}{36} \dots$: , Ret, Fe, TIBC
(SatTf),

$$\text{Ferr} - \dots :$$

$$\text{Ferr}^{33} \dots [\mu\text{mol/l}] = 107,03 + 3,249 \text{ SatTf}$$

$$\text{Ferr}^{36} \dots [\mu\text{mol/l}] = 48,83 + 3,476 \text{ SatTf}$$

3. (_____): , Ret, Fe, TIBC
(SatTf) Ferr

$$\text{Ferr} [\mu\text{mol/l}] = -106,5 + 7,23 \text{ SatTf}$$

4. _____:

- 2, 4 6
- Hgb- ,
- Ret, Fe, TIBC (SatTf)
- Fe- Hgb- -

*

Ferr -

33 . . .

1. rHuEPO-

29 . . .

33 . . .

- _____ :
 - : 8 28
 - : 250 /kg 3 i.v. () s.c.
 - : 35
 - :
 - Thr > 500 $10^9/l$ (!)
 - 2. *²*:
 - _____
 - ✓ : 40 /
 - ✓ : . . .
 - ✓ : (> 100 ml/kg)
 - ✓ : Fe-
 - Vit. B₁₂
 - ✓ : 50
 - ✓ : i.m.
 - ✓ : 2.
 - ✓ :
 - 3. * - :
 - : SatTf < 50%
 - : . . .!
 - : 2 mg/kg/24h (SatTf 21-50%) 4 mg/kg/24h (SatTf < 20%)
 - :
 - (Hgb, Hct, MCHC, MCV!), ,
 -
-
- * ()
- !
- ²*
- ,
- ,

:

1. - :
299 , 33 . . ,
2. . .
29 . .
3. .
rHuEPO-β,
, , 33 . .
4. .
5. - :
(, 2004 .) , rhuEPO-
6. 2005 . ,
7. .
8. Ferr SatTf
Ferr,
. .
9. .

1. _____, ____: 2009;6:38-41
2. _____, __, : 2009;6:23-26
3. _____, __, : 2009;4:52-54
1. _____, __, : 07-09
2004 .,
2. _____, __, : 23-25 . 2004 ., ,
3. Atanasova V., R. Rosmanova, V. Simov: Our results in the prevention of the anemia of prematurity with early use of recombinant erythropoietin. 1st International congress of Union of European Neonatal and Perinatal Societies 17-19 Nov 2008, Rome, Italy
4. _____, __, - , : 13-15 2011 .;



， ()

() .

299 ， 33

(. .). :

- 28) , (
- ; -
- ; rHuEPO- 27-29 . . ;
- (8 28)
- ;
- -

，

33 . . ,

30 . .

：

SUMMARY:

Premature infants are prone to develop a specific pathology, some of which are anaemia of prematurity (AP) and diseases of oxidative stress (DOS). Disorders of iron metabolism have an important role in their genesis. Goal of this study is to investigate the indices of blood count's dynamics, iron metabolism and anaemia of prematurity from the birth to the term. 299 premature infants, born to 33rd gestational week (GW), are examined.

What we have proved is:

- The hospital complications, multiple births and early blood transfusions (before 28th day) influence significantly the hematological and iron indicators, but these indicators normalize in the most premature infants to the discharge;
- There is a high risk of iron overload and negligible probability of iron deficiency to the term;
- The rHuEPO- -prophylaxis of AP is effective for late onset (from 8th to 28th day) and gestational age at birth 27-29 GWs;
- The only factor determining predisposition to development of DOS is the immaturity;
- We registered lower than the cited in the literature frequency of DOS among our patients that we relate to lower postnatal serum iron levels.

Protocols have been developed for monitoring erythropoiesis and iron status, and drug prevention of anemia of prematurity and disorders of iron metabolism.

Strict monitoring of iron metabolism and haematological parameters in children, born before the 33rd GW, is essential for prevention of long term complications. A standardization of the haematological and iron parameters in infants, born before 30th GW, must be composed, as there is none done up to this date.

Key words: anemia of prematurity, iron metabolism, erythropoietin, blood transfusion

:

11.05.1965 .

„ ” 1, . . , .13
. ,5800,

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2004 . –

1998 . –

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2000 – 2010 –

1991 – 2000 –

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1.

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1.

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, , ,

IVF.