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PECULIARITIES OF ENDOTHELIUM FAILURE AND  
STRUCTURE FUNCTIONAL STATE OF RED BLOOD CELLS AT  
PATIENTS WITH NON-ALCOHOLIC STEATOHEPATITIS AND  
ARTERIAL HYPERTENSION.

**Key words:** non-alcoholic steatohepatitis, arterial hypertension, endothelium, red blood cells

The information about the endothelium failure and structure functional state of red blood cells at pathients with non-alcoholic steatohepatitis combined with arterial hypertension are presented in the article. The decreaseion of synthesis of monooxide nitrogen and hyperproduction of endotheline-1, the increation of hypertenacity of red blood cell suspension, decreaseion of their capability to deformation and resistence to peroxidation processes were showed, that aggravated the damages of blood circulation and tussue hypoxia in hepar as well. The usage of differentiated diet enriched with essential micronutrients and citrargine, cardonate, ursofalk, lipoflavon, graduated aerobic weight bearing could improve the changins in endothelium and red blood cells status.

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- 3 . . . . .

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: saliva, oral microflora, probiotic, Lactobacillus, Bifidobacterium, caries risk.

[27].

« » [19],

« » [4].

[6, 10].

1.1.

*Bulgarian bacillus* [37].

1899 .

[39].

( ) [40].

PubMed

« »

1965

[34]. «pro bio» -

[7]. [15] *Strep. mutans*.  
*in vitro*, *Strep. mutans*  
*Strep. sobrinus* *Lactobacillus spp.*  
23 LAB, *L. paracasei*, *L.*  
*plantarum*, *L. rhamnosus*,  
*Strep. mutans* [32]. *in vitro* -  
( ), ( ), ( )  
*L. fermentum*, *L. salivarius*  
); *Strep. mutans* [30], *L. salivarius* BGHO1 *L. gasseri*  
( BGHO89, *Strep. mutans*,  
) [12, 18]. [40].  
4 *in vitro* -  
[2, 4]: I LAB. 109 105  
( ); II LAB  
; II *Strep. mutans*, *L. acidophilus*  
La5, *Strep. mutans*  
; III 107 105 / .  
( ), - *L. plantarum*  
299v *L. plantarum* 931  
*L. rhamnosus* LB21, *L. paracasei* F19, *L. reuteri*  
; IV - PTA 5289, *L. reuteri* ATCC 55730, *L. plantarum* strains,  
*L. reuteri* ATCC 55730  
: *Strep. mutans* [28].  
(594 )  
« : «  
», « » [1], « », « »  
[5]. [17] *L. GG rhamnosus*, (LGG).  
40 34 %.  
« », 18-  
«*Nelson Textbook of Pediatrics*» (2007)  
- «337.1 Probiotics in  
*Gastrointestinal Disorders (new)*».  
*L. rhamnosus* (LGG) LC 705, *Strep. mutans*  
20 % [20]. *Gefilus*  
: *Lactobacillus spp.* (Valio Ltd, Helsinki, Finland), *L. rhamnosus*,  
(LAB) *Bifidobacterium spp.* (BB) - 14 , [25].  
[38]. LAB  
*Strep. mutans*, *Strep. salivarius*, *Strep. sanguis*  
[43]. *L. rhamnosus* - *L. reuteri* (ATCC 55730),  
[20,28, 26, 32]. *mutans* [23].  
*L. rhamnosus* ATCC 53103 ( : *Lactobacillus*  
GG LGG ®)  
1983 . 1985 . ( 10 ) *B. lactis*  
*Sherwood Gorbach Barry Goldin*. «GG» Bb-12.  
*Strep. mutans* [24].  
1990-  
(MEDLINE) ( 2 )  
*Bifidobacterium* DN-173 010 [22].

Str. mutans [38], LAB [8].

104-106 [29]. L. gasseri, L. fermentum

E. faecium [35]. LAB ( L. gasseri CECT 5714, L. gasseri CECT 5715 L. fermentum CECT 5716) [36].

1. — «NAN 2» ( 6 12 ) (Bifidobacterium longum) BL (« ») [42];

— « » B. Lactis 109 / ( 12 ) (« ») [42];

2. — «HiPP 1 Plus» ( 6 ), «HiPP 2 Plus» ( 6 ), «HiPP 3 Plus» ( 10 ) ( , ) L. reuteri 107 mutans, [31];

— «Semper baby 2» (SEMPER, ) ( 5 12 ), L. casei (ssp. Paracasei F 19) [44]

3. — NAN 3 ( 10 ), NAN 4 ( 14 ) - BL LAB - D e ^ Pro (« ») [38], L. rhamnosus (106 / ) [8];

— « » L. acidophilus, Str. Termofilus, B. Lactis - 109 / ( (« ») [42];

L. rhamnosus ATCC 53103 Valio ( ). LGG®. Valio

Gefilus, Gefilus Max, LGG, L. rhamnosus: GG

Lc705. Valio

« ».

LGG : Culturelle ( ); ( ' ) Latta ( - , ), Aktifit ( ), Avonmore Milk Plus Everybody ( ) [16].

[9]:

- - L. acidophilus, L. bulgaricus, L. casei, L. rhamnosus, L. brevis, L. celloblosus, L. fermentum, L. plantarum.
- - B. bifidum, B. infantis, B. breve, B. adolescentis, B. longum, B. animals, B. thermophilum

» ( « . . » - 14 , LAB, BB, Lactococcus, Propionibacterium ( BB ) [11] 2 6 , - [6]. « » ( ), 64 % « » [10]. pro- L. Str . mutans 40 % 27 % L. Paracasei - International Association of Dental Research [21]. Strep. 1. « » (Institut Rosell Inc. Canada) 2 . L. rhamnosus R0011 (95 %) L. acidophilus R0052 [33]. 2. « » ( , ) - (L. fermentum L. plantarum - 109 ) [13]. 3. « - » (Ferrosan A/S, ) 1 6 , LAB GG (LGG) (109 ), B. lactis (BB-12) (109 ). - - 2 [2].

**Lactobacillus spp.**

**Bifidobacterium spp.**

**Str . mutans,**

1. 2GG5) / // 2GG6. - 1. - 17-21.
2. « »: [ ]. — : <http://bifiform.ua/map.htm>
3. / —2GG4. — 3. S3—S7.
4. : 14 « - ap a omepanu -2G1G» ( . - , 17-IS 2G1G / - . 19 - 21
5. / - 1997. - 3. - 5G - 52.
6. : 14.G1.22 « » / . . , 2GG7. — 3G .
7. : G3.G2.G3 « » / . . , 19S2. — 3S
8. S. / - 2G1G. - T.S9, 5. - 13G - 13 .
9. - 2GG5. - 2. - .4 - 52.
10. : 14.G1.22 « » / . . , 2GG9. -19 .
11. [ ] : <http://symbiter.ua/>
12. / [ ] // - 2GG7. - 2. - . 349- 35G.
13. « » [ ] : <http://www.biofarma.ua/>
14. / - 2GG7. - 12. - . 35G.
15. « » : G3.G2.G3 « » // - . 197G. - 29 .
16. [ ] : <http://www.gastroscan.ru/handbook/11S/2135>
17. // . 3: - . : 2GG1. - 2SS .
18. « » / - 1999. - 2. - . 1- 4.
19. XXI // — 2GG6. — — . 7—1S.
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