

- study DIREG 2. *FARMAKOEKONOMIKA. Sovremennaya farmakoeconomika i farmakoepidemiologiya / FARMAKOEKONOMIKA. Modern Pharmacoeconomics and Pharmacoepidemiology*. 2016; 9 (2): 17–27 (in Russ.). <https://doi.org/10.17749/2070-4909.2016.9.2.017-027>.
5. Eguchi Y., Wong G., Lee E.I., et al. Epidemiology of non-alcoholic fatty liver disease and non-alcoholic steatohepatitis in Japan: a focused literature review. *JGH Open*. 2020; 4 (5): 808–17. <https://doi.org/10.1002/jgh3.12349>.
6. Liu Y., Wang D.W., Wang D., et al. Exenatide attenuates non-alcoholic steatohepatitis by inhibiting the pyroptosis signaling pathway. *Front Endocrinol (Lausanne)*. 2021; 12: 663039. <https://doi.org/10.3389/fendo.2021.663039>.
7. Xu X., Poulsen K.L., Wu L., et al. Targeted therapeutics and novel signaling pathways in non-alcohol-associated fatty liver/steatohepatitis (NAFL/NASH). *Signal Transduct Target Ther*. 2022; 7 (1): 287. <https://doi.org/10.1038/s41392-022-01119-3>.
8. Gromova O.A., Torshin I.Yu., Chuchalin A.G., Maksimov V.A. Human placenta hydrolysates: from V.P. Filatov to the present day. *Therapeutic Archive*. 2022; 94 (3): 434–41 (in Russ.). <https://doi.org/10.26442/00403660.2022.03.201408>.
9. Gromova O.A., Torshin I.Yu., Zgoda V.G., Tikhonova O.V. Hepatoprotective peptides of the drug Laennec. *Experimental and Clinical Gastroenterology*. 2022; 203 (7): 21–30 (in Russ.). <https://doi.org/10.31146/1682-8658-ecg-203-7-21-30>.
10. European Association for the Study of the Liver (EASL); European Association for the Study of Diabetes (EASD); European Association for the Study of Obesity (EASO). EASL-EASD-EASO Clinical Practice Guidelines for the management of non-alcoholic fatty liver disease. *J Hepatol*. 2016; 64 (6): 1388–402. <https://doi.org/10.1016/j.jhep.2015.11.004>.
11. Nikonov E.L., Aksenov V.A. Current approaches to diagnosing and treating nonalcoholic fatty liver disease. *Profilakticheskaya meditsina i Preventive Medicine*. 2018; 21 (3): 62–9 (in Russ.). <https://doi.org/10.17116/profmed201831262>.
12. Clinical guidelines “Non-alcoholic fatty liver disease” (draft). 2022. Available at: <https://rsls.ru/files/PR2022.pdf> (in Russ.). (accessed 10.08.2023).
13. Newsome P.N., Buchholtz K., Cusi K., et al. A placebo-controlled trial of subcutaneous semaglutide in nonalcoholic steatohepatitis. *N Engl J Med*. 2021; 384 (12): 1113–24. <https://doi.org/10.1056/NEJMoa2028395>.
14. Cusi K., Orsak B., Bril F., et al. Long-term pioglitazone treatment for patients with nonalcoholic steatohepatitis and prediabetes or type 2 diabetes mellitus: a randomized trial. *Ann Intern Med*. 2016; 165 (5): 305–15. <https://doi.org/10.7326/M15-1774>.
15. Lee C.H., Fu Y., Yang S.J., Chi C.C. Effects of omega-3 polyunsaturated fatty acid supplementation on non-alcoholic fatty liver: a systematic review and meta-analysis. *Nutrients*. 2020; 12 (9): 1769. <https://doi.org/10.3390/nu12092769>.
16. Xiang Z., Chen Y.P., Ma K.F., et al. The role of ursodeoxycholic acid in non-alcoholic steatohepatitis: a systematic review. *BMC Gastroenterol*. 2013; 23 (13): 140. <https://doi.org/10.1186/1471-230X-13-140>.
17. Nadinskaia M., Maevskaya M., Ivashkin V., et al. Ursodeoxycholic acid as a means of preventing atherosclerosis, steatosis and liver fibrosis in patients with nonalcoholic fatty liver disease. *World J Gastroenterol*. 2021; 27 (10): 954–73. <https://doi.org/10.3748/wjg.v27.i10.959>.
18. Simental-Mendía M., Sánchez-García A., Simental-Mendía L.E. Effect of ursodeoxycholic acid on liver markers: a systematic review and meta-analysis of randomized placebo-controlled clinical trials. *Br J Clin Pharmacol*. 2020; 86 (8): 1476–88. <https://doi.org/10.1111/bcp.14311>.
19. Sanyal A.J., Chalasani N., Kowdley K.V., et al. Pioglitazone, vitamin E, or placebo for nonalcoholic steatohepatitis. *N Engl J Med*. 2010; 362 (18): 1675–85. <https://doi.org/10.1056/NEJMoa0907929>.
20. Biernacki D.M., Kalavalapalli S., et al. Role of vitamin E for nonalcoholic steatohepatitis in patients with type 2 diabetes: a randomized controlled trial. *Diabetes Care*. 2019; 42 (8): 1481–8. <https://doi.org/10.2337/dc19-0167>.
21. Manzillo G., Piccinino F., Surrenti C., et al. Multicentre double-blind placebo-controlled study of intravenous and oral S-adenosyl-L-methionine (SAME) in cholestatic patients with liver disease. *Drug Invest*. 1994; 24: 90–100. <https://doi.org/10.1007/BF03258369>.

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