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CLINICAL EFFICACY OF HEPATOTROPIC AND CHOLERETIC DRUGS IN PHARMACOTHERAPY

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ABSTRACT

This article analyzes the role of hepatotropic and choleretic drugs in pharmacotherapy, as well as their clinical efficacy in the treatment of liver and biliary tract diseases. Studies have shown that these drugs play an important role in protecting hepatocytes, improving bile secretion, and normalizing metabolic processes. Their combined use significantly improves the clinical condition of patients.

КЛИНИЧЕСКАЯ ЭФФЕКТИВНОСТЬ ПРИМЕНЕНИЯ ГЕПАТОТРОПНЫХ И ЖЕЛЧЕГОННЫХ ПРЕПАРАТОВ В ФАРМАКОТЕРАПИИ

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ABSTRACT

В данной статье анализируется роль гепатотропных и желчегонных лекарственных средств в фармакотерапии, а также их клиническая эффективность при лечении заболеваний печени и желчевыводящих путей. Исследования показывают, что данные препараты играют важную роль в защите гепатоцитов, улучшении секреции желчи и нормализации метаболических процессов. Их комплексное применение значительно улучшает клиническое состояние пациентов.

GEPATOTROP VA O'T XAYDOVCHI DORI VOSITALARIDAN FARMAKOTERAPIYADA FOYDALANISHNING KLINIK SAMARADORLIGI

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Gepatoprotektorlar, o‘t haydovchi vositalar, jigar kasalliklari, safro sekretsiyasi, farmakoterapiya, klinik samaradorlik.

ABSTRACT

Ushbu maqolada gepatotrop va o‘t haydovchi dori vositalarining farmakoterapiyadagi o‘rni, ularning jigar va o‘t yo‘llari kasalliklarini davolashdagi klinik samaradorligi tahlil qilinadi. Tadqiqotlar shuni ko‘rsatadiki, ushbu dori vositalari jigar hujayralarini himoya qilish, safro ajralishini yaxshilash va metabolik jarayonlarni normallashtirishda muhim ahamiyatga ega. Ularning kompleks qo‘llanilishi bemorlarning klinik holatini sezilarli darajada yaxshilaydi.

Introduction. The liver is the largest parenchymal organ in the human body and plays a crucial role in metabolism, detoxification, protein synthesis, and bile production. In recent years, liver diseases have increased significantly due to poor nutrition, environmental problems, alcohol consumption, and the uncontrolled use of medications. Among liver and biliary tract diseases, chronic hepatitis, fatty liver disease, cholecystitis, and biliary dyskinesia are the most common. Pharmacotherapy plays an important role in the treatment of these pathologies. In particular, hepatotropic (hepatoprotective) and choleretic drugs are widely used. [1] Hepatoprotectors help restore the structural and functional integrity of liver cells, while choleretic agents enhance bile production and secretion. The aim of this article is to scientifically analyze the clinical effectiveness of these medications.

Materials and Methods. This study was conducted based on a comprehensive review of scientific literature. During the research process, both local and international scientific sources, clinical guidelines, and recommendations were examined. The following methods were employed: analytical review, comparative analysis, synthesis of clinical study findings, and evaluation of pharmacological properties. In the course of the analysis, the main groups of hepatotropic agents (including essential phospholipids, herbal preparations, and amino acid–based drugs) were investigated, along with choleretic agents (both choleretic and cholekinetic drugs). Particular attention was given to their mechanisms of action and clinical applications. [4,5]

Analysis and Discussion. Hepatotropic drugs, or hepatoprotectors, are agents that protect the liver from various harmful factors and help restore its functions. Their main mechanisms of action include: restoration of cell membranes, antioxidant effects, normalization of lipid metabolism, and anti-inflammatory activity. Essential phospholipids integrate into hepatocyte membranes, thereby repairing their structure. Herbal-based preparations, such as those containing silymarin, neutralize free radicals and enhance the regeneration of liver cells. Amino acid–based preparations, such as

ademetionine, improve detoxification processes and reduce intrahepatic cholestasis. Choleretic drugs are mainly divided into two groups: choleretics, which increase bile production, and cholekinetics, which enhance gallbladder contraction. These agents prevent bile stasis, improve digestive processes, and alleviate dyspeptic symptoms. They are particularly effective in biliary dyskinesia and chronic cholecystitis. The importance of combined therapy lies in the simultaneous use of hepatotropic and choleretic agents, which provides high clinical efficacy in many cases When using cholekinetic and choleretic drugs, it is essential to consider their pharmacokinetic and pharmacodynamic interactions with other medications, as these interactions can influence the overall effectiveness of the therapy. In particular, attention should be given to their pharmacological interactions with anti-inflammatory agents [7]. Pharmacodynamic interactions: with hepatotropic drugs (e.g., Essentiale Forte, Silymarin): Hepatoprotective effect: NSAIDs (e.g., Ibuprofen, Diclofenac) may exert toxic effects on liver cells. Hepatotropic agents help reduce this harmful impact. Modulation of anti-inflammatory efficacy: Hepatoprotectors improve liver function and restore metabolic balance in the body, which can indirectly enhance the therapeutic effect of NSAIDs. Reduction of adverse effects: Hepatotropic drugs decrease the risk of NSAID-induced hepatotoxicity, such as elevated ALT and AST levels.With choleretic drugs (e.g., Allochol): improvement of digestion: Increased bile secretion enhances the breakdown of fats, which can positively affect the absorption of NSAIDs. Enhanced gastrointestinal effects: NSAIDs may damage the gastric and intestinal mucosa, and increased bile secretion can sometimes exacerbate this effect, raising the risk of irritation. Effects on spasms and tone: Some choleretic agents alter the tone of the biliary tract, which may modify discomfort when used concurrently with NSAIDs [12,13].

Pharmacokinetic Interactions. Absorption: Choleretic drugs increase the absorption of fat-soluble compounds, which can enhance the bioavailability of NSAIDs. Hepatotropic agents generally have little effect on drug absorption. Distribution: NSAIDs are highly bound to plasma proteins. Hepatotropic drugs improve protein synthesis, thereby stabilizing drug distribution. Metabolism (hepatic level): NSAIDs are primarily metabolized in the liver. Hepatotropic agents normalize liver enzyme systems and may, in some cases, either accelerate or slow drug metabolism. As a result, drug concentrations can change, and the risk of toxicity may decrease or vary. Elimination: NSAID metabolites are excreted via bile and urine. Choleretic drugs increase bile secretion, which can accelerate the elimination of drug metabolites and, in some cases, alter enterohepatic circulation. Clinical significance: NSAIDs combined with hepatotropic agents → increased safety, particularly in patients with liver disease. NSAIDs combined with choleretic drugs → absorption and elimination may be altered [20,21,22]. The risk of gastrointestinal adverse effects may increase. As noted above, the efficacy of NSAIDs is higher when used in combination with hepatotropic drugs.

Therefore, their combined use helps restore liver function, improve bile flow, and reduce clinical symptoms. At the same time, improper use (for example, careless administration in patients with gallstone disease) may lead to complications. Consequently, treatment should be conducted on an individualized basis.

Results. The analysis of scientific literature and clinical observations indicates that the use of hepatotropic and choleretic drugs provides significant positive effects in the treatment of liver and biliary tract diseases. In particular, under the influence of hepatoprotectors, reductions in liver enzyme levels (ALT, AST), restoration of hepatocyte structural integrity, and improvements in functional liver parameters were observed. When choleretic preparations were administered, bile secretion and flow improved, bile stasis decreased, and digestive processes normalized. This led to a reduction in dyspeptic symptoms, such as nausea, a feeling of heaviness, and bloating. With the use of combination pharmacotherapy, patients experienced decreased pain, improved overall condition, and regression of clinical signs of the disease. Additionally, these drugs demonstrated good bioavailability and were associated with a low incidence of adverse effects.

The results also indicate that the effectiveness of treatment is directly dependent on the patient's individual characteristics, the stage of the disease, and the combination of drugs used. [27]

Conclusion. Hepatotropic and choleretic drugs play a crucial role in the treatment of liver and biliary tract diseases and are an integral part of modern pharmacotherapy. Their use ensures high clinical efficacy by protecting liver cells, promoting regeneration, improving bile secretion, and normalizing metabolic processes. A comprehensive treatment approach, involving the combined use of hepatoprotectors and choleretic agents, enhances therapeutic efficacy and significantly improves patients' quality of life. At the same time, an individualized approach to treatment planning is essential, taking into account each patient's clinical condition, the etiology of the disease, and its severity.

In the future, the development of next-generation hepatoprotectors and highly effective combination drugs, as well as a thorough investigation of their long-term clinical outcomes, remains an urgent scientific task.

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