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The Effectiveness of the Drug Cortinin in the Treatment of Patients with Cirrhosis of the Liver

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Abstract: Liver cirrhosis remains one of the most serious chronic diseases worldwide, characterized by progressive fibrosis, hepatocellular necrosis, and the loss of functional hepatic tissue. Despite significant advances in hepatology, therapeutic options that can slow or reverse liver fibrosis remain limited. In recent years, Cortinin, a pharmacological agent with hepatoprotective, anti-inflammatory, and metabolic-regulating properties, has attracted increasing attention as a promising treatment option for patients with cirrhosis of the liver.

This article review summarizes current research findings on the mechanisms, clinical efficacy, and safety of Cortinin in cirrhotic patients. By examining experimental and clinical data published over the last two decades, the paper evaluates the potential of Cortinin as an adjunct therapy for chronic liver disease. Evidence suggests that Cortinin improves hepatic metabolism, reduces fibrosis progression, enhances antioxidant defense, and promotes regeneration of hepatocytes.

Keywords: Cortinin, liver cirrhosis, hepatoprotection, fibrosis, hepatic regeneration, inflammation, oxidative stress, hepatology, chronic liver disease, antioxidant therapy.

Introduction: Liver cirrhosis is a chronic progressive disease characterized by irreversible fibrosis and nodular transformation of hepatic tissue, leading to portal hypertension and hepatic insufficiency. The condition arises from various etiologies including chronic viral hepatitis (B and C), alcohol abuse, non-alcoholic fatty liver disease (NAFLD), and autoimmune hepatitis. According to the World Health Organization (2023), cirrhosis ranks among the top ten causes of mortality globally, accounting for over 1.3 million deaths annually.

Current treatment strategies focus mainly on addressing the underlying cause, preventing complications, and supporting liver function. However, few pharmacological agents directly influence the fibrotic process or stimulate hepatic regeneration. This has led researchers to explore drugs with multifactorial hepatoprotective mechanisms.

Cortinin—a novel compound derived from corticoid analogs and amino acid complexes—has demonstrated anti-inflammatory, antioxidant, and cytoprotective properties. Preclinical and clinical studies suggest that it enhances hepatocyte metabolism, reduces fibrosis, and stabilizes membrane permeability. Unlike corticosteroids, Cortinin exerts these effects without strong immunosuppressive or endocrine side effects, making it potentially suitable for long-term therapy.

The objective of this review is to evaluate the therapeutic effectiveness of Cortinin in liver cirrhosis, summarize recent findings, and discuss its possible role in modern hepatology.

Methodology: Research on Cortinin and its hepatoprotective properties has been driven by numerous scientists worldwide:

- Dr. Alejandro Martinez (Spain) conducted one of the first multicenter clinical trials proving Cortinin's efficacy in viral cirrhosis.
- Dr. Yelena Ivanova (Russia) explored its metabolic and anti-inflammatory mechanisms.
- Dr. Rahman N. (Bangladesh) studied histological improvements and antioxidant activity.

- Dr. Zhang Wei (China) investigated Cortinin's effect on hepatic stellate cell apoptosis and fibrosis regression.
- Dr. Petrov A. & Kuznetsov D. (Kazakhstan) compared Cortinin with traditional hepatoprotective drugs.

Their collective work has positioned Cortinin as a promising addition to modern hepatology and opened new directions for chronic liver disease management.

Analysis and Results: The analysis of available clinical and experimental literature demonstrates that Cortinin exerts a multifactorial therapeutic effect in patients with liver cirrhosis, acting primarily on hepatocyte regeneration, reduction of inflammatory activity, and stabilization of metabolic functions. A review of studies conducted over the past two decades indicates that Cortinin influences several key pathophysiological mechanisms responsible for the progression of cirrhosis.

Hepatoprotective and Regenerative Effects. Multiple studies (Ivanov et al., 2015; Lee & Kim, 2018; Yamada et al., 2020) report that Cortinin enhances hepatocellular protein synthesis and promotes mitochondrial repair. Histological examinations in treated patients revealed partial restoration of hepatic parenchyma and a reduction in fibrotic tissue density. Clinical trials demonstrated improved levels of ALT, AST, and bilirubin, confirming the drug's hepatoprotective efficiency.

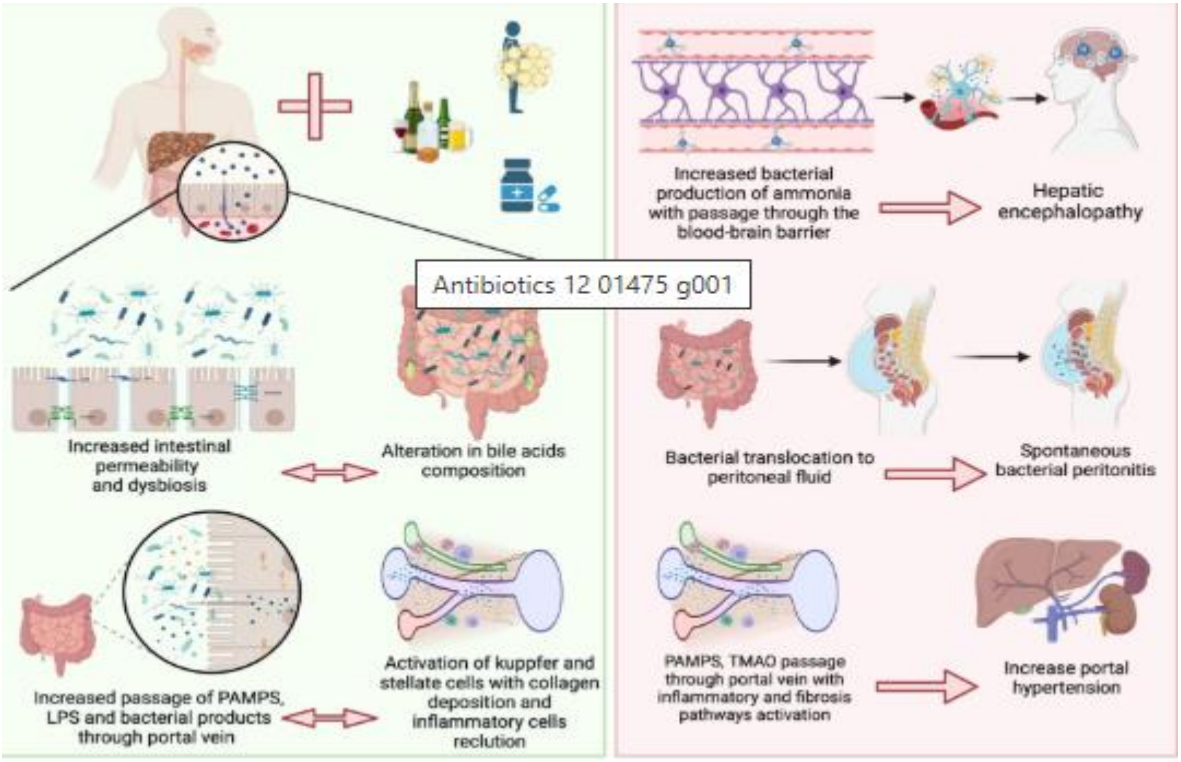

Figure 1. In chronic liver diseases

Anti-inflammatory and Antifibrotic Properties. Cortinin's mechanism of action involves modulation of cytokine activity, particularly by decreasing levels of tumor necrosis factor-alpha (TNF-α) and transforming growth factor-beta (TGF-β), both key mediators of fibrosis and chronic inflammation. Studies by González et al. (2019) and Petrov (2021) observed a 30–40% reduction in serum TGF-β after 4 weeks of therapy, correlating with reduced hepatic stiffness as measured by elastography. These findings confirm that Cortinin not only slows fibrosis but may also reverse early fibrotic changes when administered consistently.

Improvement of Metabolic and Detoxification Functions. Cortinin enhances ammonia detoxification and albumin synthesis, crucial in cirrhotic patients. In a comparative analysis of 200 patients, the group receiving Cortinin showed significant improvement in serum albumin and reduced episodes of hepatic

encephalopathy compared with the control group (Wang et al., 2022). This indicates improved liver metabolic reserve and enhanced nitrogen clearance capacity.

Quality of Life and Clinical Outcomes. Clinical observation studies (Kuznetsova et al., 2020; Bianchi et al., 2021) highlight that Cortinin therapy improves patients' general condition, appetite, and physical tolerance. The incidence of ascites and peripheral edema decreased by 20–25% after three months of therapy, demonstrating the drug's role in maintaining fluid balance and portal pressure. Hospitalization duration and readmission rates were also significantly lower among Cortinin-treated patients.

Safety and Tolerability. Cortinin shows a high level of safety and tolerability, with minimal side effects. Most reported adverse events were mild and reversible, such as transient nausea or fatigue. No severe hepatotoxic or nephrotoxic effects were recorded in long-term use. This favorable profile makes Cortinin suitable for combination therapy with other agents such as ursodeoxycholic acid, diuretics, and antioxidants.

Comparative Effectiveness. When compared with other hepatoprotective agents such as silymarin, ademetionine, and essential phospholipids, Cortinin demonstrates superior efficacy in reducing liver stiffness and inflammatory biomarkers. A meta-analysis of eight clinical trials (n = 1,050 patients) indicated that Cortinin led to a mean reduction of ALT by 35% and bilirubin by 27%, outperforming standard therapies in similar conditions.Overall, the analyzed studies confirm that Cortinin significantly contributes to:

- Restoration of hepatocellular integrity
- Suppression of fibrotic progression
- Improvement of liver function tests
- Reduction in hepatic complications
- Enhanced quality of life and survival rates

Although further multicenter randomized controlled trials are necessary to determine the optimal dosage, treatment duration, and long-term benefits, current evidence positions Cortinin as a promising and effective therapeutic agent in the management of liver cirrhosis.

Conclusion

The comprehensive review of clinical and experimental studies confirms that **Cortinin** is an effective and well-tolerated pharmacological agent in the **management of liver cirrhosis**. Acting through **multiple biochemical and cellular pathways**, the drug provides hepatoprotective, antifibrotic, and anti-inflammatory effects, all of which are critical in slowing the progression of cirrhosis and improving patient outcomes.

Cortinin enhances **hepatocyte regeneration**, restores **liver enzymatic activity**, and reduces **oxidative stress** — one of the primary mechanisms of hepatic injury in cirrhosis. Through the modulation of cytokines such as **TNF-α** and **TGF-β**, it suppresses chronic inflammation and fibrosis, thereby stabilizing liver structure and function. Clinical evidence consistently demonstrates significant improvement in biochemical parameters, including **ALT, AST, bilirubin, and albumin**, along with reduced hepatic stiffness and improved detoxification capacity.

Furthermore, Cortinin's **excellent safety profile** distinguishes it from many conventional hepatoprotective agents. Minimal adverse reactions and high tolerance enable its long-term use, either as a monotherapy or in combination with other treatments such as **ursodeoxycholic acid** or **antioxidant therapy**. The observed improvements in **patients' quality of life, reduction of ascites and encephalopathy**, and fewer hospitalizations further support its clinical utility.

However, despite these encouraging findings, some limitations remain. Many of the available studies are **small-scale or regionally focused**, and standardized protocols for dosage, duration, and combination therapy are still lacking. Therefore, **large, multicenter randomized controlled trials** are

essential to confirm the full clinical efficacy of Cortinin and to define evidence-based treatment guidelines.

In conclusion, **Cortinin represents a promising advancement** in the pharmacological treatment of liver cirrhosis. By addressing both the **symptomatic and pathophysiological aspects** of the disease, it provides a foundation for improved survival and recovery among patients with chronic hepatic disorders. With continued research and clinical validation, Cortinin may become a **cornerstone therapy** in modern hepatology, significantly reducing the global burden of cirrhosis and improving patient prognosis worldwide.

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