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ETIOLOGICAL FACTORS OF LIVER CIRRHOSIS AND THEIR REGIONAL DIFFERENCES

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ABSTRACT

This scientific paper analyzes the etiological factors of liver cirrhosis, their pathogenetic mechanisms, and regional distribution characteristics. Liver cirrhosis is a chronic and progressive disease characterized by the replacement of normal liver parenchyma with fibrotic tissue, nodular regeneration, and the development of portal hypertension. The study examines the role of viral hepatitis, alcohol consumption, metabolic disorders, autoimmune, and hereditary factors in the development of liver cirrhosis. Particular attention is paid to regional differences, especially in Central Asia and the Republic of Uzbekistan, highlighting the etiological structure of the disease. The results of the study have significant scientific and practical importance for improving preventive measures, early diagnosis, and treatment strategies for liver cirrhosis.

Keywords

liver cirrhosis, etiology, viral hepatitis, alcohol, regional differences, fibrosis, hepatology

INTRODUCTION

The liver is one of the most vital organs in the human body, playing a crucial role in metabolism, synthesis of proteins, fats, and carbohydrates, detoxification processes, and immune defense. Chronic damage to the liver negatively affects all body systems. Liver cirrhosis represents the final and most severe stage of chronic liver diseases. In recent years, the incidence and mortality rates associated with liver cirrhosis have remained consistently high worldwide. According to the World Health Organization, liver cirrhosis ranks among the leading causes of death globally, following cardiovascular and oncological diseases [1]. The prevalence of this disease is particularly high in developing countries, where infectious factors, sanitary conditions, and the quality of healthcare services play a significant role. In the Republic of Uzbekistan, the relevance of liver cirrhosis is associated with the relatively high prevalence of hepatitis B and C infections, increasing alcohol consumption, unhealthy dietary habits, and environmental factors [2]. Therefore, an in-depth study of the etiological factors of liver cirrhosis, identification of regional characteristics, and development of preventive strategies constitute an urgent scientific task. The aim of this study is to systematically analyze the main etiological factors of liver cirrhosis and scientifically substantiate their regional differences.

RESEARCH METHODOLOGY

The following scientific methods were applied in the course of the study: analysis of national and international scientific literature, comparative analysis of clinical and epidemiological data, use of statistical data to identify regional differences, systematic and logical generalization methods. The main sources included textbooks, manuals, scientific journals, and official documents published within the healthcare system of the Republic of Uzbekistan.

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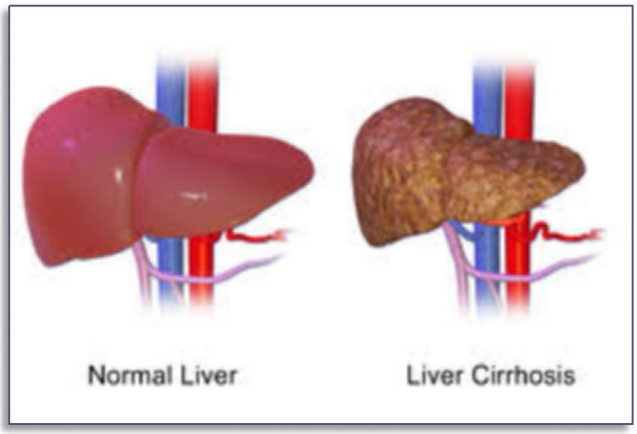
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MAIN PART

Viral hepatitis B and C are among the leading causes of liver cirrhosis. These viruses induce chronic inflammatory processes in the liver, leading to the formation of fibrotic tissue.



Approximately 20–30% of patients with chronic hepatitis C develop liver cirrhosis over time [3]. Chronic alcohol consumption exerts a direct toxic effect on hepatocytes. Acetaldehyde, a metabolite of ethanol, damages cell membranes and accelerates fibrotic processes in the liver [4]. In recent years, non-alcoholic fatty liver disease (NAFLD) and non-alcoholic steatohepatitis (NASH) have become significant causes of liver cirrhosis. These conditions are primarily associated with obesity and type 2 diabetes mellitus [5]. Although less common, autoimmune hepatitis, primary biliary cirrhosis, and Wilson–Konovalov disease can also lead to the development of liver cirrhosis [6]. In this region, the primary etiological factors of liver cirrhosis are viral hepatitis and alcohol-related liver damage. The quality of medical services and preventive measures significantly influence disease prevalence [2]. In many European countries, alcohol is the leading cause of liver cirrhosis. Eastern Europe, in particular, shows high rates of alcohol consumption and cirrhosis-related morbidity [7]. In East Asia, liver cirrhosis is predominantly associated with hepatitis B infection. Vaccination programs play a critical role in reducing disease prevalence in these regions.

ANALYSIS AND RESULTS

The analysis indicates that the etiology of liver cirrhosis is closely linked to regional socio-economic conditions. Infectious factors dominate in developing countries, whereas metabolic and alcohol-related factors prevail in developed regions.

CONCLUSION

Liver cirrhosis is a multifactorial, chronic, and severe disease. Accurate identification of etiological factors is essential for effective treatment and prevention. Implementing comprehensive preventive strategies while considering regional characteristics is crucial for reducing the burden of liver cirrhosis.

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