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**GENDER-BASED DIFFERENCES IN THE PROGRESSION AND SEVERITY  
OF ALCOHOLIC LIVER DISEASE: A COMPARATIVE CASE STUDY**

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**Relevance.** Alcohol liver disease (ALD) is a major global health concern, with liver cirrhosis caused by alcohol usage being the leading cause of mortality globally. Belarus had the greatest per capita alcohol consumption in 2010, however by 2016 it had fallen. While female liver cirrhosis rates are increasing globally, men continue to have a larger incidence in Europe. Women are more vulnerable to ALD than men due to variables such as higher intestinal permeability and hormonal impacts, particularly oestrogen, which increases liver sensitivity to endotoxins and worsens liver damage. Women also have distinct alcohol pharmacokinetics, with lower gastric alcohol dehydrogenase activity and greater blood alcohol concentrations for the same ingestion.

**Aim:** to confirm the distinct sex differences in alcohol-consuming patients who develop liver cirrhosis through a comparative case study, presenting the acquired data and subsequent conclusions.

**Materials and methods.** Several cases from the gastrointestinal department at Hospital 6 were reviewed, and just one Female patient met the required diagnosis of isolated ALD was identified from the 6<sup>th</sup> City Clinical Hospital, and a male patient with a comparable diagnosis was selected from the 3<sup>rd</sup> City Clinical Hospital.

We evaluated laboratory findings considering the following parameters: AST, ALT, total protein, albumin, total bilirubin, GGT, and CRP. We also took into account cirrhosis, ascites, hepatomegaly, encephalopathy, anaemia, and thrombocytopenia for the evaluation of the severity of the disease. Additionally, we also calculated the Child-Pugh's score to determine the extent of Liver failure.

**Results and their discussion.** A 59-year-old female patient and a 51-year-old male patient were compared for the severity of ALD. The female drank frequently (diluted wine and beer), and the male was an alcohol abuser (vodka). The male had AST and ALT levels of 518.46 U/L and 479.21 U/L, respectively, with an AST/ALT ratio of 1.08. The female had lower AST, ALT levels (156.1 U/L and 58.8 U), but with a higher AST/ALT ratio of 2.65.

The male patient had normal ALP and elevated GGT (87.69 U/L), indicating excessive alcohol use. Albumin was lower in the female (24.6 mg/L) compared to the male (36.67 mg/L), with the female also presenting with ascites. CRP was significantly higher in the male (505 mg/L) compared to the female (12.52 mg/L). Bilirubin was elevated in both, but higher in the male (101 mmol/L) compared to the female (55 mmol/L).

Despite these differences, the female progressed to liver cirrhosis with ascites and was classified as Child-Pugh Class C, while the male was categorized as Class B.

**Conclusion.** The analysis of data obtained from patient case files supports the central hypothesis of our research: despite generally lower levels of alcohol consumption, women develop alcoholic liver disease at a higher rate than men. This disparity can be attributed to several factors, primarily rooted in physiological differences that affect alcohol metabolism. Overall, the findings highlight the increased biological susceptibility of women to the hepatotoxic effects of alcohol compared to men.