



Metabolic Syndrome: A New Factor in the Increase of Liver Cirrhosis, According to IPN Researchers

- **Obesity, high blood pressure, and elevated triglyceride and cholesterol levels are conditions associated with fatty liver disease, according to hospital records from a study led by IPN researchers.**
- **Dr. Carmen Palacios Reyes urges the population to improve their diet and engage in physical activity to reduce the incidence of this disease.**

Researchers from the Instituto Politécnico Nacional (IPN) have identified a significant shift in the causes of liver cirrhosis in Mexico. While cases associated with hepatitis B and C viruses have decreased, there has been a notable rise in cases related to metabolic-associated fatty liver disease (formerly known as non-alcoholic fatty liver disease).

According to the article "Overview of Liver Cirrhosis and Transplantation in Mexico: Changes in the Main Causes," published in *Annals of Hepatology* by Elsevier, liver disease is a public health issue that caused nearly 42,000 deaths in 2022, including cirrhosis. This translates to 114 deaths per day, making it the fourth or fifth leading cause of death in the country.

Non-alcoholic fatty liver disease often occurs alongside metabolic disorders such as overweight, obesity, type 2 diabetes, high blood pressure, and dyslipidemia (elevated triglyceride and cholesterol levels), which are highly prevalent conditions among the Mexican population.

The research was conducted by specialists from various institutions, including the IPN's Escuela Superior de Medicina (ESM), Hospital Juárez de México, Hospital Regional de Alta Especialidad de Ixtapaluca, Instituto Tecnológico de Monterrey, Hospital General de México, Universidad de Guanajuato, and Clínica Hospital del ISSSTE Huauchinango. The study was led by researchers Icela Palma Lara and Carmen Palacios Reyes from the ESM's Sección de Estudios de Posgrado e Investigación (SEPI), along with Dr. María Guadalupe Ortiz López from Hospital Juárez.





Dr. Carmen Palacios explained that obtaining precise yearly data on liver diseases in the country is challenging. However, the expertise of various specialists has helped identify that alcohol-related cirrhosis cases have remained stable. At the same time, hepatitis B and C incidence has declined due to screening programs, vaccination, and direct-acting antiviral treatments.

"However, our study found that over the past 10 years, there has been an increase in cirrhosis cases caused by fatty liver disease accompanied by metabolic disorders such as overweight, obesity, type 2 diabetes, high blood pressure, and dyslipidemia. This condition is referred to as metabolic-associated fatty liver disease or metabolic dysfunction-associated steatotic liver disease," she stated.

The situation is serious, warned the genetics specialist, as fatty liver disease is often a silent condition. Since it presents no symptoms in its early stages, it may go unnoticed until inflammation, fibrosis, or even cirrhosis and liver cancer develop.

Palacios Reyes explained that liver cirrhosis occurs when liver tissue is replaced by scars or fibrosis, preventing it from functioning properly. Some of its key functions include nutrient metabolism, production of cholesterol and bile (for fat digestion), processing of medications and alcohol, removal of toxins from the blood, and production of essential proteins for the immune system.

She emphasized that while liver transplantation is an effective treatment for cirrhosis, the ideal approach is to implement preventive measures at all ages, such as regular physical activity and avoiding sugary drinks and ultra-processed foods due to their high content of added sugars and saturated fats, which directly impact liver health.

"It is important for the population to understand that fatty liver disease can be reversed with lifestyle changes. Otherwise, it may progress to cirrhosis, which would require a transplant and entail extremely high costs in every aspect," Palacios Reyes stressed.

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