Table 1

Laboratories Studies	Result
HIV, HBV, HCV	NEGATIVE
ANTI SMOOTH MUSCLE ANTIBODY	NEGATIVE.
ANTI MITOCHONDRIAL ANTIBODY	
ANCA P & ANCA C	
ALPHA FETOPROTEIN	NEGATIVE.
ANTIBODY OF CARCINOEMBRYONIC	
CA 19.9	
CA 125	
ANA	POSITIVE: 1:80, GRANULAR PATTERN.
ANTI RHO	POSITIVE, 27.1
ANTI LA	NEGATIVE.
BETA 2 MYCROGLOBULINE	1123
C3	187
C4	27
TSH Y T4-L	NORMAL.
IGA	916
IGM	223
IGG	3362
ANTI CCP	NEGATIVE
RHEUMATOID FACTOR	5.1
VSG, PCR.	NORMAL.

ANCA P & ANCA C, perinuclear & cytoplasmic anti-neutrophil cytoplasmic antibodies; ANA, antinuclear antibody; ANTI CCP, anti-cyclic citrullinated peptide antibody; ANTI LA, anti-La antibody; ANTI MITOCHONDRIAL ANTIBODY, anti-mitochondrial antibody; ANTI RHO, anti-Ro antibody; ANTI SMOOTH MUSCLE ANTIBODY, anti-smooth muscle antibody; ANTIBODY OF CARCINOEMBRYONIC, carcinoembryonic antigen; BETA 2 MYCROGLOBULINE, beta-2 microglobulin; CA 125, cancer antigen 125; CA 19.9, cancer antigen 19-9; C3, complement component 3; C4, complement component 4; FACTOR REUMATOIDE, rheumatoid factor; HBV, hepatitis B virus; HCV, hepatitis C virus; HIV, human immunodeficiency virus; IGA, immunoglobulin A; IGG, immunoglobulin G; IGM, immunoglobulin M; PCR, polymerase chain reaction; TSH Y T4-L, thyroid-stimulating hormone and free thyroxine; VSG, erythrocyte sedimentation rate.

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Liver Injury Induced by Peumus boldus with Fatal Outcome. Case Report

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Introduction and Objectives: Peumus boldus is a plant native to South America traditionally used to treat gastrointestinal ailments. There are reports of hepatotoxicity from prolonged consumption. We describe the case of a patient with liver damage induced by Peumus boldus, with a torpid evolution and fatal outcome, highlighting the awareness of the adverse effects of this plant.

Materials and Patients: A 48-year-old woman with a history of type 2 diabetes on insulin glargine treatment and a surgical history of cholecystectomy 12 years prior for cholelithiasis, without other relevant history. She began three weeks prior with asthenia, adynamia, hyporexia, nausea, fever, jaundice, and right hypochondrial pain. Upon questioning, exposure to an herbal supplement based on Peumus boldus during the previous 15 days was related. Upon admission with vital signs BP: 101/82 mmHg, HR: 98 bpm, RR: 21 rpm, Temperature: 38.2°C, SaO2 90%. On physical examination, generalized jaundice, dark urine, and pale stools were noted. Laboratories showed a cholestasis clinical pattern (R Factor of 1.0, with ALT of 62 U/L, ALP of 184 U/L). Despite discontinuing the herbal supplement, she progressed with progressive cholestasis on follow-up, leading to the initiation of glucocorticoids without improvement. Complementary studies were conducted, ruling out infectious and autoimmune diseases, as well as a transjugular liver biopsy reporting non-alcoholic steatohepatitis with morphological data of toxic-induced lesions with moderate activity.

Results: During her clinical course, with persistence of generalized jaundice and right hypochondrial abdominal pain, grade 2 ascites, and encephalopathy characterized by disorientation in time and circumstance, behavioral alterations, and eventually somnolence tendency, for which she was brought by family members to the emergency service of our hospital. During her hospital stay, she showed a tendency to hypotension, without adequate response to vasopressor treatment, with clinical and laboratory evidence of renal function deterioration, and worsening liver function parameters with BT of 22.1 mg/dl, DB 20.5 mg/dl, IB 1.6 mg/dl, ALT 64 U/L, ALP 188 U/L, Platelets 59,000 cells/mm3, PT 27.5 seconds, and INR 2.54. After 65 days from the onset of symptoms, despite the treatment used, a fatal outcome occurred.

Conclusions: Despite a growing number of reports of hepatotoxicity induced by Peumus boldus, it is not listed in databases intended for such purposes as LiverTox. This case highlights the importance of raising awareness about the hepatotoxic risks of herbal products.

Ethical Statement: This clinical case was prepared following current ethical standards and principles in medical research. Informed consent was obtained from the patient's legal representative for the anonymous publication of her clinical data. Confidentiality and respect for the patient's privacy were always guaranteed, according to the provisions established in the Declaration of Helsinki and the guidelines of the Ethics Committee of the General Hospital ISSSTE, Querétaro. No experimental interventions were performed, and all therapeutic measures applied were part of the standard of medical care.

Declaration of Interests: None.

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Characterization and determination of prevalence in autoimmune liver diseases in a tertiary center.

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Introduction and Objectives: Autoimmune Hepatic Diseases (AHD) involve a chronic immunomediated response towards hepatocytes and bile ducts, as seen in Primary Biliary Cholangitis (PBC), Autoimmune Hepatitis (AIH), and Primary Sclerosing Cholangitis (PSC). Their complex diagnosis, lack of studies, and irreversible liver damage pose significant challenges today due to increased mortality.

Materials and Patients: A retrospective (cross-sectional, retrolective) study was conducted. Patient records from men and women aged 18 and above attending the Liver Clinic from 2020 to 2023 were analyzed. Data included demographic, clinical, biochemical, serological, and histological variables compatible with EHAI diagnosis. Descriptive statistics such as frequency, percentages, measures of central tendency, and dispersion were employed for qualitative and quantitative variables.

Results: The prevalence of AHD during the evaluated period was 11.5% in our population. A total of 201 patients were identified, comprising 85 (42%) with PBC, 65 (32%) with AIH, 7 (4%) with PSC, and 44 (22%) with overlap (Figure 1). Among them, 177 (88%) were female.

The mean age at diagnosis was 51 years ± 13.2. 28% had associated autoimmune diseases, with thyroid disease being the most common at 33%. Hepatic cirrhosis was the most frequent presentation (60%) at diagnosis, with 60% exhibiting decompensation (64% with variceal digestive bleeding) (Figure 2). PBC accounted for 47% of cirrhosis cases. Liver transplantation was performed in 6% of EHAI cases, mainly due to AIH.

Conclusions: The diagnosis of AHD shows a progressive increase. A high incidence of advanced stages of liver disease related to AHD is observed. Further research is needed to define the prevalence and characterize these patients, thus enhancing early and effective diagnosis.

Ethical statement: This study was conducted in accordance with the ethical principles of our hospital center. All data were handled with strict confidentiality and solely for research purposes.

Declaration of interests: None.

Funding: This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

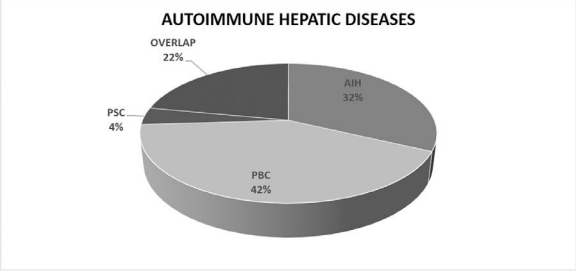

Figure 1. Autoimmune Hepatic Diseases (AHD). AIH: Autoimmune Hepatitis, PBC: Primary Biliary Cholangitis, PSC: Primary Sclerosing Cholangitis.

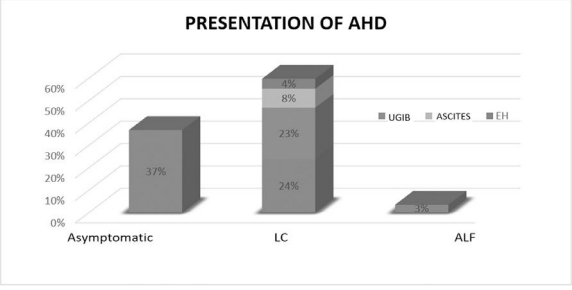

Figure 2: Presentation of Autoimmune Hepatic Diseases. AHD: Autoimmune Hepatic Disease, LC: Liver Cirrhosis, ALF: Acute Liver Failure, UGIB: Upper Gastrointestinal Bleeding, HE: Hepatic Encephalopathy.

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Behavioral Assessment of a Novel Hepatic Encephalopathy Model using CCl_4 and Manganese in Mice

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Introduction and Objectives: Hepatic encephalopathy (HE), affecting around 40% of cirrhosis patients, impairs cognitive and motor functions. Developing HE experimental models is crucial for advancing our understanding of this condition. This study developed an HE models using intraperitoneal carbon tetrachloride (CCl_4) and manganese supplementation in mice, focusing on behavioral validation.

Materials and Patients: Two groups of male C57BL6 wild-type mice (8 mice per group), 10 weeks old, were used in this study. The first group (healthy controls) had access to standard food (Rodent Laboratory Chow* 5001, LabDiet, Richmond, IN, USA), and drinking water ad libitum and were euthanized at week

12. The second group (cirrhotic group) received the same diet but with 1 mg/ml of MnCl2 added to their drinking water. It was intraperitoneally injected twice a week with CCl4 for 12 weeks (1 ml/kg of body weight dissolved in olive oil for a final concentration of 30% in the first 5 weeks and 20% in the following 7 weeks). Behavioral tests, including the beam walking test and cylinder test, were conducted to assess motor coordination and motor asymmetry. Liver morphology changes were observed, and Hematoxylin-Eosin staining was used to determine inflammation. Data were analyzed using ANOVA for parametric data and the Kruskal-Wallis test for non-parametric data, with results presented as Mean ± SEM.

Results: Behavioral tests indicated signs of HE, such as gait abnormalities (tremor, rigidity), hind limb ataxia, and bristly hair. In the beam walking test, cirrhotic mice spent significantly longer to traverse the beam ($P \leq 0.05$) and had a higher number of limb foot faults ($P \leq 0.001$) compared to healthy mice. The cylinder test showed no significant difference in locomotor asymmetry. Morphological changes in the liver from healthy to cirrhotic were evident. Healthy livers had a smooth reddish-brown surface, regular shape, and firm texture. In contrast, cirrhotic livers appeared paler, with an irregular surface, and became harder and bumpy. Size alterations and the presence of leukocytic foci were also noted in cirrhotic livers.

Conclusions: The combination of CCl_4 and manganese successfully induced evidence of significant motor coordination impairments and distinct liver morphology changes, indicating a noticeable progress in developing the experimental model for HE.

Ethical statement: Technical specifications for the production, care, and use of laboratory animals followed the NOM-062-ZOO-1999. Additionally, guidelines from the animal facility of the University of Guadalajara and criteria outlined in the Guide for the Care and Use of Laboratory Animals published by the National Institutes of Health were adhered to.

Declaration of interests: None.

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HDL-C and BMI levels as parameters for MASLD detection

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