Assessment of Cardiovascular Risk in Patients with Fatty Liver: Impact of Hepatic Cirrhosis

Arely Gayosso-Godinez, Raúl Contreras-Omaña

Center for Study and Research of Hepatic and Toxicological Diseases (CEIHET), Hidalgo, Mexico

Introduction and Objectives: According to the literature, cardiovascular events have been described as the leading cause of death in patients with fatty liver associated with metabolic dysfunction (MASLD). The main objective of this study is to assess and compare cardiovascular risk in two groups of patients: those diagnosed with fatty liver without cirrhosis and those with liver cirrhosis attributable to fatty liver. The aim is to determine if there is a significant difference in cardiovascular risk between these groups, identify the most relevant cardiovascular risk factors, and explore possible associations between progression to liver cirrhosis and increased cardiovascular risk.

Materials and Patients: A retrospective cross-sectional study was conducted from 2020 to 2024, involving a total of 289 patients, of whom 165 were diagnosed with MASLD without cirrhosis and 125 patients were diagnosed with cirrhosis associated with fatty liver. In the first group, the grade of hepatic steatosis was determined by imaging methods, and cardiovascular risk assessment scales such as GLOBORISK and PREVENT were applied to both groups, conducting a comparative analysis between these study groups. Additionally, variables such as sex, age, weight, height, obesity, sedentary lifestyle, glomerular filtration rate, smoking, diabetes, hypertension, total cholesterol levels, LDL, HDL, and triglyceride levels were evaluated.

Results: In the present study, 165 patients diagnosed with MASLD were evaluated using two cardiovascular assessment scales: PREVENT and GLOBORISK. According to the PREVENT scale, 86 patients (52.1%) exhibited a low cardiovascular risk, with 50.9% also showing mild hepatic steatosis confirmed by imaging studies. Using the GLOBORISK scale, it was determined that 117 patients (70.9%) had a low level of cardiovascular risk. On the other hand, a total of 124 patients with hepatic cirrhosis associated with fatty liver were included. According to the evaluation using the PREVENT scale, it was found that 64 patients (51.6%) had an intermediate cardiovascular risk, and according to the GLOBORISK model, 45 patients (36.2%) were classified with a moderate risk. When contrasting between the group of patients with cirrhosis and those with only fatty liver, the first group has a 3.6 times higher likelihood (OR 3.6) of presenting a moderate to severe cardiovascular risk compared to those without cirrhosis (P=0.00).

Conclusions: This study demonstrates that patients with cirrhosis associated with fatty liver have a 3.6 times higher prevalence of moderate to severe cardiovascular risk compared to patients without cirrhosis but with fatty liver. This suggests a need for closer monitoring of cardiovascular events alongside liver disease monitoring.

Ethical statement: The informed consent for the use of personal data was obtained from all study participants.

Declaration of interests: None.

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Autoinmne hepatitis associated with hepatitis A virus infection, a case report

J. Ugalde-Zanella, L. Martínez-Martinez, M. Saldaña-Barnard, L. Beltran-Rascon

Internal Medicine, Ignacio Morones Prieto Central Hospital, Mexico

Introduction and Objectives: Hepatitis due to Hepatitis A Virus (HAV) is an entity that has been described as a causal factor of HAI, the prevalence and course of which is reported to be 1% - 3%. The diagnosis is associated with AIH is usually made in the acute event; a time criterion is not well defined.

Materials and Patients: 41-year-old male, with a history of DM2, systemic arterial hypertension and rheumatoid arthritis, onset in June 2023 with fever and gastrointestinal symptoms (vomiting, nausea and stools with reduced consistency), associated with jaundice of 1 week after his symptoms. Diagnosis of Acute Liver Injury due to HAV is confirmed on 06/22/23, with Ac. IgM VHA (8.7 +), Transaminases >2000U/L and INR 2.4; support therapy and symptom control began with partial resolution on 09/2023. He subsequently reentered the emergency area 11/2023 with jaundice, abdominal pain, and excessive fatigue. Acute Hepatitis was again determined with transaminases >2000 U/L, a 3F CT scan was performed and was normal, and the approach for autism was complemented with the following panel: negative ANAS and positive ASMAs 1:100, IgG 2780. Liver biopsy confirmed AIH. morphological changes compatible with autoimmune hepatitis. Treatment was started with Prednisone 0.5mg/kg, with subsequent maintenance based on Azathioprine, achieving biochemical remission 04/2024

Results: It has been postulated that HAV infection, as occurs with other viral infections, may be a triggering factor for latent AIH in susceptible individuals, considering multiple pathways of inflammation and immunotolerance defects. Most of the reported cases are diagnosed 5 months after the acute event HAV; in the case of our patient, it was 6 months after the acute event, completing a score of 7 points by the simplified system. In case reports of OAB-associated AIH, treatment has been initially established with oral Prednisone 0.5 to 1 mg/kg day, with maintenance of Azathioprine or Mycophenolate Mofetil with comparable response rates. The goal of treatment is biochemical and histological remission with the goal of avoiding progression of liver damage and mortality.

Conclusions: Viral infections have been associated with the development of autoimmune hepatitis, HAV in up to 3% based on case reports due to the rarity of the presentation. The pathophysiology of presentation triggered by OAB is poorly defined. Biopsy and differential diagnoses are the mainstay in the approach to these patients.

Ethics statement: the ethics statutes dictated by the scientific committee of the Ignacio Morones Prieto Central Hospital were followed.

Declaration of interests: None.

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Acute-on-chronic liver failure due to hepatitis A infection in a patient with Metabolic Dysfunction-Associated Fatty Liver Disease. Case report.

Omar Ocampo-Espinosa, Mariana Jacinto-Ruiz

Internal Medicine, Zone General Hospital 50, SLP, México

Introduction and Objectives: Metabolic Dysfunction-Associated Fatty Liver Disease (MAFLD) has steadily increased its prevalence, making it the most common liver disease in Western industrialized nations, affecting one billion people worldwide. Hepatitis A is a necro-inflammatory liver disease caused by the hepatitis A virus (HAV). Less than 1% develop acute liver failure, where 30% will require a liver transplant and 70% will require supportive therapy until recovery. Hepatic steatosis is recognized as a risk factor for

developing the severe variant of HAV disease. We present this case of acute liver failure due to HAV in a patient with MAFLD.

Materials and Patients: 37-year-old male with a history of systemic arterial hypertension and morbid obesity. He presented headache, fever, asthenia, adynamia, choluria and acholia with a positive viral profile for hepatitis A virus (IgM +, IgG +). Two days later, with an attack on general condition, in addition to neurological deficit with gradual deterioration of alertness. Simple computed axial tomography of the skull without alterations. Hepatosplenic Doppler ultrasound: Chronic diffuse liver disease, Doppler criteria for grade I venous restrictive liver disease, splenomegaly. He presented multiple organ failure due to coagulopathy, acute liver failure and kidney injury and was sent to a third-level unit for Molecular Adsorbent Recirculating System (MARS) therapy.

Results: It was classified as grade 3B acute-on-chronic liver failure without being a candidate for transplant. During his hospitalization, MARS therapy was performed on two occasions: single-session hemodialysis, hypertonic solution for cerebral edema, and treatment for hyperammonemia. He was started on carvedilol, vitamin E and lipophilic statin. Without organ failure, creatinine levels normalized, mild transaminasemia persisted and as well as hyperbilirubinemia at the expense of direct bilirubin. Continuing follow-up by external consultation.

Conclusions: The complex interaction between hepatic steatosis, hepatitis A infection and acute-on-chronic liver failure is highlighted, noting the importance of comprehensive evaluation and multidisciplinary management. The increasing prevalence of hepatic steatosis poses additional challenges in the management of hepatitis A, increasing the risk of severe forms of the disease. Timely and specialized treatment are essential to address this complex clinical condition.

Ethical statement: Patient identity is protected. Informed consent was obtained.

Declaration of interests: None

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Aggressive intrahepatic cholangiocarcinoma in pregnancy: Case report and literature review

Alan Galindo-Félix[1], Laura Sánchez-Reza[1], Emma I. González-Bravo[1], Jorge A. Ortega-Tecuátl[1], Ana P. Escobedo-Zúñiga[2]

[1] *High Specialty Medical Unit, National Medical Center "General Division Manuel Ávila Camacho," Puebla. IMSS, Mexico*
[2] *General Hospital of Mexico Dr. Eduardo Liceaga, Mexico*

Introduction and Objectives: Cholangiocarcinoma is a very rare type of hepatobiliary cancer and extremely rare reported during pregnancy. Its early and timely diagnosis is complicated. To report a rare and poorly studied case of aggressive intrahepatic cholangiocarcinoma during pregnancy in a 30-year-old patient.

Material and Patients: Female patient, 30 years old, with antecedent of 2 cesarean sections, one 2 years ago and the second one 1 and a half year ago, without complications and occupational exposure to unspecified pesticides. The clinical picture begins at 32 weeks of gestation characterized by nausea and vomiting of gastric contents, dull pain in the right hypochondrium and weight loss of 7 kg in 2 months, to which generalized jaundice, choluria, acholia, pruritus, nocturnal diaphoresis and ecchymosis; A simple magnetic resonance image was performed and a large liver lesion was identified at the level of liver segments IV and VIII with a maximum diameter of 10.3 cm, suggestive of malignancy associated with the presence of satellite lesions suggestive of infiltration to the rest of the liver parenchyma. It was decided to resolve the pregnancy at 35 weeks of gestation by cesarean section without apparent complications. During the mid-surgical postpartum period simple and contrasted tomography of the abdomen is performed where hepatic, pulmonary, pleural and bone tumor activity and dilation of the intrahepatic bile duct are reported; tumor markers ACE 1.91, CA 19-9 30.89, AFP 149.4; liver biopsy reports metastasis of moderately differentiated adenocarcinoma (g2) consistent with primary bile duct (cholangiocarcinoma); Immunohistochemistry with positivity for ck7, ck19, negative for ck20, gata 3, cdx2, pax8 and hepar1.

Results: During his in-hospital stay, she presented sinus tachycardia evidenced by ECG, associated with risk factors, and pulmonary thromboembolism was suspected. The ICU service was consulted and they accepted the case, evaluated by cardiology performing an echocardiogram discarding the diagnosis. The general surgery, oncological surgery and oncology services were consulted and commented that she was not a candidate for surgical or systemic treatment for advanced disease clinical stage IV.

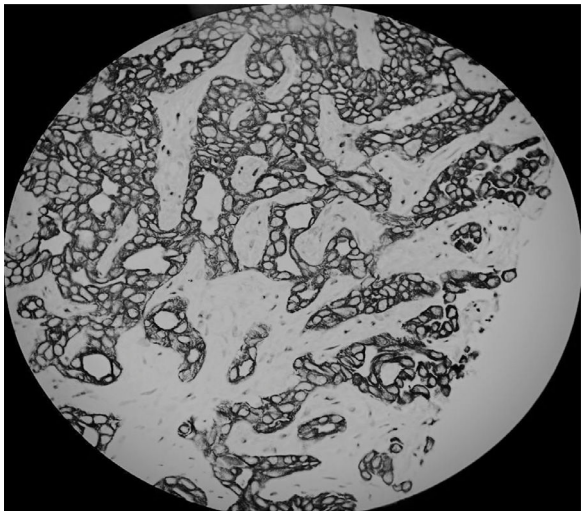
She was discharged from the hospital with palliative measures and two weeks later she was re-admitted to the emergency department due to generalized tonic-clonic seizures advanced airway manage was performed and vasopressor support was decided; simple skull tomography without metastatic activity; presented clinical deterioration and progression of the disease leading to multiple organ failure. The patient died 4 days later. The baby is being monitored by ophthalmology for a diagnosis of retinopathy of prematurity.

Conclusions: Cholangiocarcinoma is the second most common liver neoplasm, it encompasses neoplasms that depend on the bile duct. It has an incidence in pregnancy of 10 cases/10,000 pregnancies, making it a very uncommon pathology and only 12 cases reported from 1998 to 2023 are known. Its prognosis is lethal due to its aggressiveness and diagnosis in advanced stages. The treatment is only surgical, however the procedure carries high rates of morbidity and mortality.

Ethical statement: The patient's identity was protected. Consentment was obtained directly from the patient.

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.



Annex 1. Liver biopsy with immunohistochemistry