

Mann-Whitney U were performed using the software GraphPad Prism version 8. A p value < 0.05 was considered significant.

Results: The rat's survival decreased to 62.5% with the Dmg Tx for the 18-wk Dmg group at the tenth week, but when the 13-wk Dmg group was included, the survival increased to 78.5% (n= 14) until the thirteenth week. Dmg Tx tended to decrease the animal's weight and induced changes in the liver tissue (paler coloration, differentiated nodules, and hepatomegaly; to a lesser degree in the 13-wk Dmg group). Heterogeneity in the damage severity was detected among the animals of both groups, which was also found at the histological level, where there were clear signals of loss of normal hepatocyte architecture, lobular structure disorder, atypical cell enhancement, and accumulation of collagen. Probable lung metastasis was recognized in the 18-wk Dmg group (indicated by macroscopic and histological alterations). In the Dmg groups, the levels of ALT, AST, ALKP, GGT, and total proteins in serum were significantly altered; as well as *CAT*, *SOD*, *COL1A*, and *TGFB1* expression were significantly different. In addition, *IL6* was also increased in the 18-wk Dmg group.

Conclusions: Dmg Tx during 13 wks. is sufficient to induce significant alterations and the 18-wk Tx exhibited possible lung metastasis. The heterogeneity in this model may be seen as a disadvantage; yet, this may be taken as a depiction of the heterogeneity found in liver cancer patients in real life.

Ethical statement: The study protocol (code CI-01720) was approved by the Ethics, Research, and Biosecurity Committee of the CUCS, Universidad de Guadalajara on 20 October 2020.

Declaration of interests: None.

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Primary Hepatic Lymphoma Associated with HIV, Case Report.

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Introduction and Objectives: Primary liver lymphoma (PLL) is a rare form of lymphoma. It represents 1% of all non-Hodgkin lymphomas and 0.4% of extra nodal lymphomas. Risk factors include infection with human immunodeficiency virus (HIV), hepatitis B and C, as well as chronic immunosuppression. Here, we present a case of PLL.

Materials and Patients: A 39-year-old male with HIV infection and recently diagnosed disseminated Kaposi's sarcoma was admitted due to abdominal pain, asthenia, adynamia, and a 10 kg weight loss. Physical examination revealed a painful abdomen, hepatomegaly of 3 cm below the costal margin, and no other abnormalities. An exophytic, violaceous palatine tumor was observed in the oral cavity. Laboratory studies showed: total bilirubin 1.3, direct bilirubin 1, aspartate aminotransferase 23, Alanine transaminase 20, alkaline phosphatase 519, Gamma-glutamyltransferase 392, lactate dehydrogenase 271. A CT scan reported multiple hypodense oval images in hepatic segments III to VIII with a hypodense center in the contrast phase and ring enhancement; an amorphous, irregularly bordered mass occupying the soft palate extending to the nasal cavity; no splenomegaly or lymphadenopathies. An ultrasound-guided liver biopsy revealed lymphocyte proliferation with severe atypia consistent with lymphoma, which immunohistochemistry confirmed as

diffuse large B-cell lymphoma of germinal center origin with a double-expressor immunophenotype (C-MYC > 40%, BCL2 > 50%). A biopsy of the palatal lesion reported ulcerated Kaposi's sarcoma. Endoscopy and colonoscopy showed circumscribed mucosal elevations in the cecum and stomach; histopathology reported Kaposi's sarcoma.

Results: Extension studies were conducted with serology for hepatitis B and C viruses and cytomegalovirus, all of which returned negative results. The bone marrow biopsy showed no lymphomatous infiltration, and the lumbar puncture revealed no abnormalities. The dissemination study with computed tomography of the chest, abdomen, and pelvis did not reveal findings suggestive of supradiaphragmatic or infradiaphragmatic involvement. The diagnosis of primary hepatic double-expressor lymphoma was concluded, synchronous with diffuse Kaposi's sarcoma. Antiretroviral therapy was initiated for 2 weeks, followed by the first cycle of chemotherapy with the EPOCH-DA regimen. The patient experienced progressive deterioration that ultimately led to his death.

Conclusions: LHP is an uncommon entity, just as Kaposi's sarcoma are common neoplasms associated with HIV and immunodeficiencies. Synchronous presentation is poorly documented, with only isolated cases reported in the literature. Therefore, it is important to conduct a comprehensive approach for the identification and timely management of these conditions

Ethical statement: The patient's identity was protected, and consent was obtained from family members.

Declaration of interests: None

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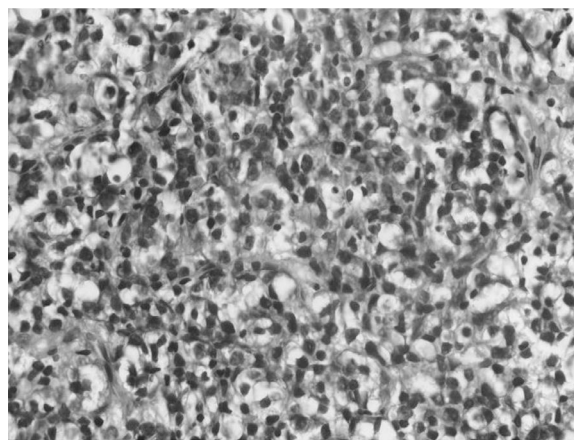


Figure.

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