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Multiple Hepatic Lesions and Fever of Unknown Origin

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A 73-year-old man referred to a Gastrointestinal Clinic for work-up of a hepatic mass. He reported fatigue, abdominal pain and fever with no history of any weight loss, anorexia, itching or night sweats. Physical examinations were normal and there were no signs of cirrhosis.

Laboratory studies revealed the following: Hb (11.6 g/dl); MCV (84 fL); ESR (74mm/h); LDH (923 u/l); and normal LFT. Serologic studies were negative for HIV and hepatitis A, B, and C.

The chest radiography and chest CT scan did not reveal any abnormalities. Upper and lower GI endoscopy results were normal. A tri-phasic CTscan (Figure 1) showed multiple hypodense nodules in both liver lobes without classical enhancement for hemangioma, portal vein thrombosis or hepatocellular carcinoma (HCC). A liver biopsy was performed and the histopathological features are shown in Figure 2. Other studies such as bone marrow biopsy and flow cytometry were normal.

What is the most probable diagnosis?

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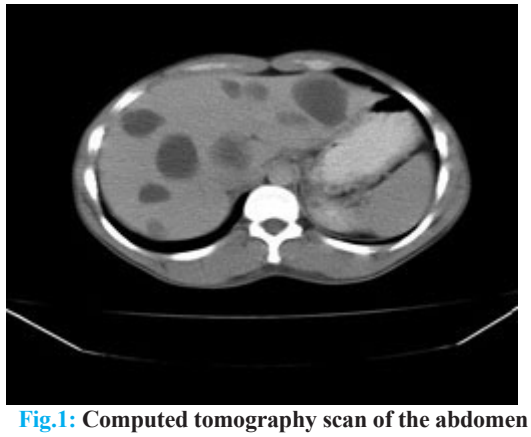

Fig.1: Computed tomography scan of the abdomen showing multiple hypodense nodules in both lobes of the liver.

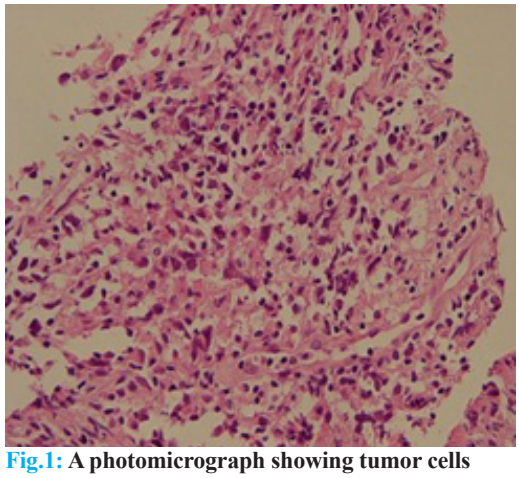

Fig.1: A photomicrograph showing tumor cells positive for CD20, proving B-cell lineage.

Answer:

Histological study of the specimen showed cellular tissue composed of a few small lymphocytes with dense nuclei and a significant number of large lymphoid cells with coarse nuclear chromatin, pleomorphism and conspicuous nucleoli. The immuno-histochemical study revealed CD20 and CD3 positivity for large and small cells, respectively. The large tumor cells were negative for CD30, CD15, Pan-CK and Hep-par. Therefore, a diagnosis of large B-cell lymphoma was made.

Primary hepatic lymphoma (PHL) is very rare, with an incidence of less than 1% among all lymphomas(1). It is usually seen during middle age and twice as often in males than females.(2) Patients usually complain of right upper quadrant and hepatic fullness accompanied by nausea, vomiting and anorexia.(3) Liver function tests and hepatic enzymes are always in the normal range, however LDH and occasionally alkaline phosphatase are elevated(3,4).Associations between development of PHL and viral hepatitis, HIV infection, an immune suppression state, liver cirrhosis, primary biliary cirrhosis and autoimmune diseases have been reported(5).There are approximately 20%-60% of PHL patients with histories of hepatitis C infection(6).

Imaging studies might present a solitary liver mass or multiple lesions(7).Diagnosis of PHL requires a liver biopsy along with the absence any lymphoproliferative disease outside of the liver(4,8).The most common histological type of PHL is diffuse large B-cell followed by small lymphocytic, follicular and marginal zone B-cell lymphoma(8).Confirmation of PHL necessitates additional evaluations such as bone marrow aspiration and biopsy, flow cytometry, and colonoscopy to exclude nonlymphoma malignancies that originate from other organs(9).Although chemotherapy is the main treatment for PHL,(10) surgery plays a role in this context and may be used for debulking or localized disease(1).

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