Hepatic Adenoma - A Case Report

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Abstract

We report the case of a 32-year-old female who presented to us with incidental findings of a space occupying lesion (SOL) in liver on abdominal ultrasound (USG). She was taking oral contraceptive pill for last 9 years. Clinical examination was unremarkable and liver investigation revealed mildly raised Serum alanine aminotrasferase (ALT). Dyslipidemia was also present. Computed tomography (CT) identified a 2.5 cm lesion in the right lobe of liver at posterior aspect which was isodense. Alpha-feto protein was normal. CT guided Fine Needle Aspiration Cytology (FNAC) showed adequate cellular material containing organized reactive hepatocytes in the background of blood. No granuloma or malignant cell was seen. Findings were suggestive of hepatic adenoma.

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Introduction:

Hepatic adenoma (HA) is an uncommon primary benign neoplasm of hepatocellular origin that most frequently affects young women. It has generally been associated with use of oral contraceptives.

HA may be also found in association with other conditions such as diabetes mellitus, pregnancy, Fanconi anemia, Hurler disease, familial adenomatous polyposis and tyrosinemia.[1-4] More rarely, HA has been associated with abusive use of anabolic-androgenic steroids (AAS), mainly among bodybuilders.[5-7]

Most of these tumors are detected incidentally by means of imaging examinations such as ultrasound or other scanning techniques. Others are because of hepatomegaly, right upper quadrant discomfort, pain, compression of neighboring organs, or intraperitoneal hemorrhage. The diagnosis is sometimes established only during intraoperative exploration.[1-4.] Tumor rupture is frequently observed in bulky tumors, and this occurrence presents high mortality.[4, 8] HA has also been associated with malignant transformation. This association has also been observed in large tumors.[3, 4]

The preferred treatment is surgical resection by means of guided hepatectomy or enucleation. This is the approach of choice for symptomatic patients or even for large tumors > 5 cm.[4] Today, the laparoscopic approach has become the gold standard because it provides low morbidity, fast recovery and cosmetic advantages.[9-11] However, for treating large lesions, especially when they are close to major vascular structures, an open approach is safer.[10,11]

Case Report:

A 32 years old, overweight (BMI-27 kg/m^2) lady was referred to us because of incidental findings of a liver SOL on ultrasound, otherwise she was asymptomatic. The patient reported that she had been taking oral contraceptive for last 9 years. On general and systemic examination no abnormality was found. Laboratory tests revealed mildly raised ALT with hyperlipidemia. Tests for hepatitis B surface, anti-HBs and anti-hepatitis C antibodies were negative. Tests for serum tumor markers (CEA, CA 19-9 and alpha-fetoprotein) were also negative. Moreover, the laboratory and serological tests ruled out the presence of liver abscesses, amebas or hydatid cysts. Abdominal computed tomography (CT) showed a mildly enlarged liver with fatty change. There was an enhancing isodense lesion measuring about 2.4 x 2.5 cm in right lobe of liver along its posterior aspect. The CT findings were suggestive of neoplastic lesion with fatty change in liver.

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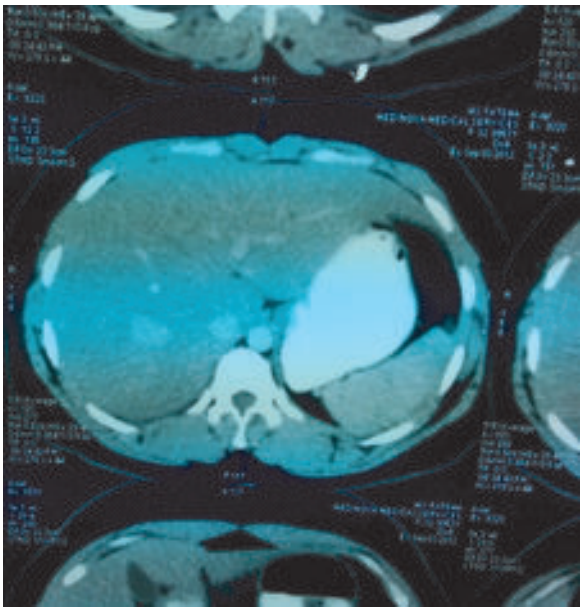

Fig.-1: *CT scan of upper abdomen showing enhancing isodense lesion in right lobe of liver.*

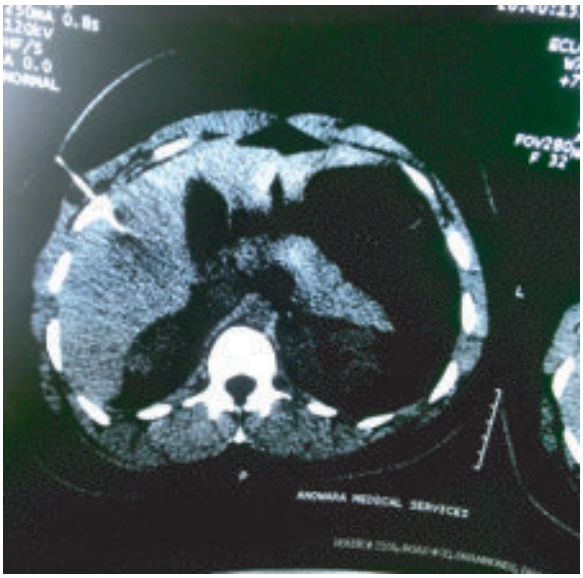

Fig.-2: *CT guided FNA from SOL of liver.*

This diagnostic hypothesis was confirmed by means of fine-needle aspiration cytology. FNAC report showed adequate cellular material containing organized, reactive hepatocytes in the background of blood. Some of the hepatocytes showed fatty change. No granuloma or malignant cell was seen. FNAC report was suggestive of hepatic adenoma. We counseled the patient to stop oral contraceptive and prescribed lipid lowering drug fenofibrate and advised to reduce weight. We followed up her after 3 months and found normal ALT and lipid profile.USG of W/A showed no further increase in size of SOL.

Discussion:

Hepatic adenoma is a benign tumor that was rare before the introduction of oral contraceptives in1960. A possible association between oral contraceptive use and the development of hepatic adenoma was first described by Baum in 1973.[12] These tumors are clinically associated with oral contraceptive use in women and occasionally anabolic corticosteroid use in men.[13] Multiple hepatic adenomas are much less common than solitary lesions. Such tumors are not always associated with the use of oral pills. The incidence of this entity is increased in patients with glycogen storage disease and in those taking anabolic corticosteroid.[14] Hepatic adenomas are sometimes asymptomatic. But intra tumor bleeding that causes abdominal pain and hemoperitoneum are not uncommon. In one study 50% of the patients experienced acute hemorrhage into an adenoma with 6% mortality.[15] Patients with large and multiple adenomas are both believed to have an increased risk of hemorrhage. With the use of sonography, adenoma is well defined and of variable echogenicity. On computed tomography, it is usually isodense or slight hypo-dense. Intra tumor hemorrhage will appear hyperdense.[16] In Magnetic Resonance Imaging (MRI), most are predominantly hyper intense on T2- weighted image; the predominant signal intensity on T1- weighed image varied.[17] One of the problems that HA presents is the differential diagnosis with hepatocellular carcinoma (HCC) or even with vascularized metastasis. In fact, the radiological findings from patients with HA are often similar to those from patients with HCC. Cytological evaluations may be performed using material obtained by means of FNAC. This procedure has been recommended by some authors. However, there is a risk of hemorrhage.[3, 4] In the present case, FNAC was important for confirming the HA diagnosis. On angiography, it will show stretching of the feeding arteries around the mass with branches penetrating the tumor from the periphery and irregular vessels through

the mass. Areas of hemorrhage may be demonstrated. Transarterial embolization will sometimes be used to stop bleeding. It was once thought that all adenomas appeared as a cold area of no uptake because of the absence of Kupffer cells in the tumor tissue. However reports have shown that many adenomas contain Kupffer cells. So scintigraphy is not a specific diagnostic modality.[18] Liver biopsy is not preferred because of hyper vascular tumors with the risk of bleeding after biopsy and too small tissue to be differentiate from well-differentiated hepatocellular carcinoma. Further, lesions may have a focus of malignancy that is not taken from biopsy.[19] Histologically, adenoma is composed of hepatocytes arranged in cords without bile ducts. It is perfused by arterial feeders, which often have poor connective tissue support. Hemorrhage often results and occasionally leads to rupture of the capsule. The natural history of hepatic adenoma after cessation of oral contraceptive is variable. Some of them regress or even disappear. So cessation of oral contraceptive is still necessary.[20] Besides, the tumor progression is associated with increased risk of bleeding or rupture, the treatment of hepatic adenoma is surgical resection when possible. If patient presents with multiple hepatic adenoma, complete resection may be impossible, and hepatic transplantation is taken into consideration when tumors progress.[21] Malignant transformations is rare, but there have been a few cases reported.[22] In one series of 39 cases of unresected liver adenoma, 5 cases subsequently developed hepatocellular carcinoma.[23] Sometimes, hepatic adenoma is difficult to differentiate from well - differential hepatocellular carcinoma. Therefore surgery should be indicated when clinical diagnosis of hepatocellular carcinoma can't be ruled out or malignant transformation is suspected.

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