

Giant Hepatic Angiomyolipoma Mimicking Hepatocellular Carcinoma

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ABSTRACT

Angiomyolipomas (AMLs) are a benign mesenchymal tumor that typically occurs in the kidney and very rare in the liver. Even though these tumors can be diagnosed with imaging techniques, diagnosis mainly relies on pathological findings. Because AMLs can mimic other hepatic tumors such as hepatocellular carcinoma (HCC) on radiologic images due to some of the features. We presented a giant hepatic AML case which mimicking hepatocellular carcinoma in imaging techniques. We suspected from hepatocellular carcinoma according to radiologic images, but biopsy result was hepatic angiomyolipoma. There are potential risks such as spontaneous rupture and malignant transformation of these tumors. The effective therapy of hepatic AML is surgical resection.

Key words: Hepatic angiomyolipoma, hepatocellular carcinoma, treatment, follow-up.

Hepatoselüler Kanseri Taklit Eden Dev Hepatik Anjiyomyolipom

ÖZET

Anjiyomyolipomlar, tipik olarak böbrekte görülen ve karaciğerde çok nadir olan benign mezenkimal tümörlerdir. Bu tümörler görüntüleme teknikleri ile teşhis edilebilse de, tanı esas olarak patolojik bulgulara dayanır. Çünkü anjiyomyolipomlar radyolojik görüntülerde bazı özellikleri nedeniyle hepatoselüler karsinom gibi diğer karaciğer tümörlerini taklit edebilirler. Biz görüntüleme tekniklerinde hepatoselüler karsinomu taklit eden bir hepatic anjiyomyolipom vakasını sunduk. Radyolojik görüntülere göre hepatoselüler karsinomdan şüphe ettik, fakat biyopsi sonucu hepatic anjiyomyolipom idi. Bu tümörlerin malign transformasyon ve spontan rüptür gibi potansiyel riskleri vardır. Hepatic anjiyomyolipomların efektif tedavisi cerrahi rezeksiyondur.

Anahtar kelimeler: Hepatic anjiyomyolipom, hepatoselüler karsinom, tedavi, takip.

INTRODUCTION

Angiomyolipomas occurs most commonly in the kidneys and include smooth muscle, adipose tissue and vascular structures. Hepatic angiomyolipomas (AMLs) are very rare, benign, hepatic mesenchymal tumors, its diagnosis is difficult, its treatment remains controversial. This neoplasm found in both males and females, and most commonly in adult females (1). Until date, approximately 300 cases have been reported by the authors in the literature. The tumor showing the predominance of lipomatous tissue is probably to be correctly diagnosed; however, myomatous and angiomatous variant poses diagnostic problems since it is difficult to be distinguished from other tumors such as hepatocellular carcinoma (HCC), hemangioma, focal nodular hyperplasia, hepatic

adenoma on radiologic studies (2). We presented a hepatic AML case which mimicking hepatocellular carcinoma due to hypervascularity on imaging techniques.

CASE

A 57-year-old female admitted to a hospital with history of two months of back pain. She had type two diabetes for four years, taking oral antidiabetics and had a history of thyroidectomy ten years before. She had no other known disease on her history.

On physical examination vital signs were stable. Liver was palpable 3-4 cms. and right upper quadrant was tenderness. No other pathologic sign on physical examination. On laboratory examination, haemoglobin was 11,7

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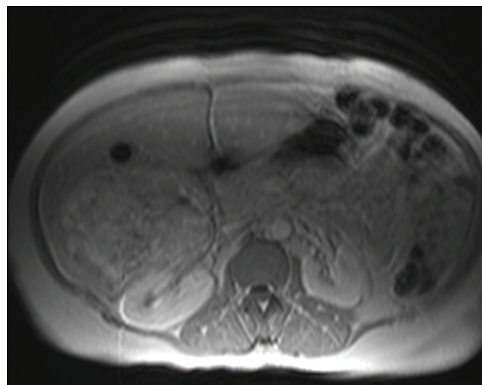


Figure 1. Mass lesion on liver MRI (HCC?)

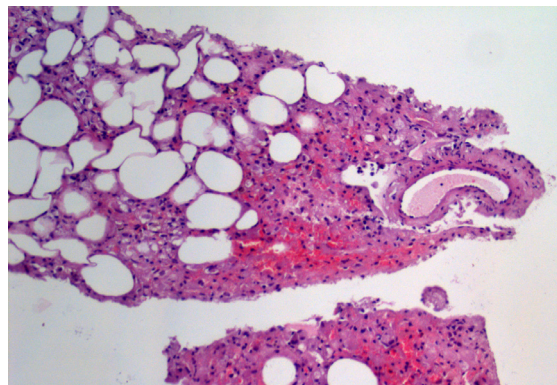


Figure 2. Mature lipocyte groups and hyalinized thick-walled vascular structure

g/dL, white blood cell count 6700/mm³, thrombocyte count 242.000/mm³ and ESR was 14 mm/h. C-reactive protein was 8,1 mg/L, liver enzymes, total bilirubin, alkaline phosphatase and gama glutamyl transpeptidase levels were normal. Hepatitis B surface antigen, hepatitis B surface antibody and hepatitis C virus antibody were negative and tumor marker levels (include α -fetoprotein) were normal. On color doppler USG, two lesions seen on liver, one in the lateral segment of the left lobe, 80x56 mm in diameter, the other one in the posterior segment of the right lobe, 95x150 mm in diameter. The lesion on the right lobe was more hypervascular, both lesions were hyperechoic, heterogenous and including some cystic patchy necrotic areas (HCC). On dynamic CT scan, two heterogeneously contrasted mass lesions of fat density shown, one in the lateral segment of the left lobe, 101x70 mm in diameter, the other one in the inferior segment of the right lobe, 130x132 mm in diameter. On dynamic MRI of liver (with T1 weighted and M contrast-transvers plane), on posterior of the right lobe of the liver 170x143x133 mm in dimensions, regularly limited in part, heterogenous mass lesion seen making lobulations under the liver. This lesion was hypervascular in arterial phase. Primarily these lesions were thought to be HCC (Figure 1).

We suspected from hepatocellular carcinoma according to radiologic images and performed USG guided biopsy from the lesion. The biopsy result showed mature extracellular adipocyte clusters between hepatocytes, fibrocollagenous connective tissue, smooth muscle and small vessels with hyalinised wall (Figure 2). Pathological findings showed that the tumor was HAML. The lesion was

accepted to be hepatic angiomyolipoma and the patient referred to surgery for excision of the lesion, because it was very large lesion.

DISCUSSION

A diagnosis of hepatic AML is not easy, confirm imaging techniques and biopsy. The radiological features of hepatic AML vary according to its histological components (3). Hepatic AMLs on radiologic examination, may mimic HCC. Malignancies with hypervascular and fatty components, e.g., HCC with fatty change, are also difficult to differentiate from AML. The typical findings in imaging studies of hepatic AML are as follows: On USG images; tumor can be observed the high echogenic lesions owing to lipomatous and myomatous tissue or low echoic lesions owing to angiomatous tissue. If the tumor has predominance of lipomatous tissue, the differential diagnosis with hemangioma is difficult by sonography alone (2). On plain CT images; homogenous or heterogeneously low density with low attenuation value (less than -20 HU), and contrast-enhanced dynamic CT showed highly enhanced lesions in the arterial phase, prolonged enhancement in the portal phase (2).

MRI is suggested to be the best modality to determine the components of the tumor. Hyperintensity on the T2-weighted image and hyper- or hypointensity on the T1-weighted image are observed depending on the component of tumor tissue. The early enhancement in the arterial phase followed by the prolonged enhancement in the portal phase and defective lesions in the hepa-

tobiliary phase can be observed on contrast-enhanced dynamic MRI (4-6). Nevertheless, hepatic AML is sometimes difficult to diagnose based on imaging studies. In this instance, the diagnosis of HAML should be confirmed with biopsy. Definite pathologic diagnosis of this tumor is usually made by identification of the three different components of smooth muscle cells, adipose tissue, and blood vessels. HMB-45 positive staining of myoid cells has been used as a pathologic characteristic of hepatic AML (7). Because of the rarity and pleomorphism of the histological features of hepatic AML, histologic diagnosis may be difficult, especially with needle biopsy.

Differential diagnosis must be done with hepatocellular carcinoma, hepatic adenoma, lipoma, leiomyoma, hepatoblastoma, malignant melanoma, gastrointestinal stromal tumor, focal nodular hyperplasia and focal steatosis. The effective therapy of hepatic AML is surgical resection (3).

Several authors advocated a conservative approach in the treatment of hepatic AML. However, dangerous complications such as late recurrence (8), malignant transformation (9), spontaneous rupture (10), giant AML with disseminated intravascular coagulopathy (11), and Budd Chiari syndrome (12), have been reported in hepatic AML. So, the proper treatment of hepatic AML has remained controversial. Dind and et al., proposed the indication for resection as follows: [1] all symptomatic patients should receive surgical resection, [2] tumors greater than 6 cm in size, [3] tumors show extrahepatic growth and risk of rupture, [4] tumors show a tendency to grow, [5] findings of diagnostic imaging and/or biopsy cannot make a definitive diagnosis (13). Conservative management with close follow-up is suggested in patients with asymptomatic tumors and meet the following criteria: [1] tumor size smaller than 5 cm, [2] angiomyolipoma proved through fine needle aspiration biopsy, [3] patients with good compliance, and [4] not a hepatitis virus carrier (14).

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