Multiple Hepatic Haemangiomas: A Case Report

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A healthy 30-year-old woman underwent health screening, and was incidentally found to have a well-defined echogenic lesion in Segment VI of her liver, measuring 4.2 X 1.8cm in her ultrasound scan. She was asymptomatic, has no cutaneous lesions, nor stigmata of chronic liver disease. She has no hepatomegaly. CT scan of her abdomen found multiple liver haemangiomas, varying in size from 21 X 28mm to sub-centimeter lesions.

Diagnosis of hepatic haemangioma in this patient is based on typical appearance on contrast imaging. Their appearance is important to recognise as they do not need intervention and attempts at instrumentation for diagnosis or surgery may result in more harm than good.

Keywords: *Hepatic haemangioma (HH), Benign tumour of the liver, Conventional ultrasonography (US), Computer tomography (CT)*

Introduction

Haemangiomas are well known congenital vascular malformations, and sometimes referred to as cavernous haemangiomas. Although genetic predisposition has been proposed, the exact aetiology of this tumour is still unknown. These lesions can affect any organ site of the body, with the scalp and face being the most commonly affected sites. They can vary in size from a few millimetres to several centimetres in diameter. Current evidence indicates that these benign tumours have no malignant potential.[1,4]

Intra-abdominally, haemangioma can develop anywhere, such as solid organs, ligaments, or hollow viscera, with the liver being the most common abdominal organ to be involved. Of all tumours affecting the liver, haemangioma is the second most common, following metastasis. Although its precise incidence is unknown, it is estimated to affect about 4-20% of the general population.[1,4]

Case Report

A 30-year-old single woman was referred to the author as she was incidentally found to have liver lesion on abdominal ultrasound examination during health screening. She has no symptoms. She does not smoke, and drinks alcohol only on occasions. She has no significant family history.

She weighed 44.4kg. Clinical examination was normal, in particular there were no stigmata of chronic liver disease, and no cutaneous lesions. Examination of her abdomen found no abnormal mass, no hepatomegaly or splenomegaly. Laboratory tests including liver function tests, full blood counts, α-fetoprotein were all within normal limits. She has antibody to Hepatitis B surface antigen.

An ultrasound scan of her abdomen found a well defined echogenic lesion in Segment VI of her liver, measuring 4.2 X 1.8cm. Computer tomography (CT) scan of her abdomen found multiple liver haemangiomas. There were 10 lesions seen in right and left liver lobes (segments 2, 3, 4, 5, 6, 7, 8). The larger ones are seen in segment VI (21 x 28 mm) and segment VII (22 x 18 mm), respectively. Multiple focal hypodense lesions were seen in the right and left liver lobes on plain CT scan. These lesions show increased peripheral enhancement on the arterial phase, on portovenous and delayed phases the lesions demonstrate centripetal fashion of filling-in contrast,

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and on late delayed phase there is homogenous washout of the contrast seen within these lesions. These features are compatible with benign liver haemangiomas.

Considering the fact that patient has no symptoms, and the largest of her haemangiomas measures 28mm, she does not need any definitive treatment, and has been advised to come for follow-up and repeat imaging at six monthly intervals.

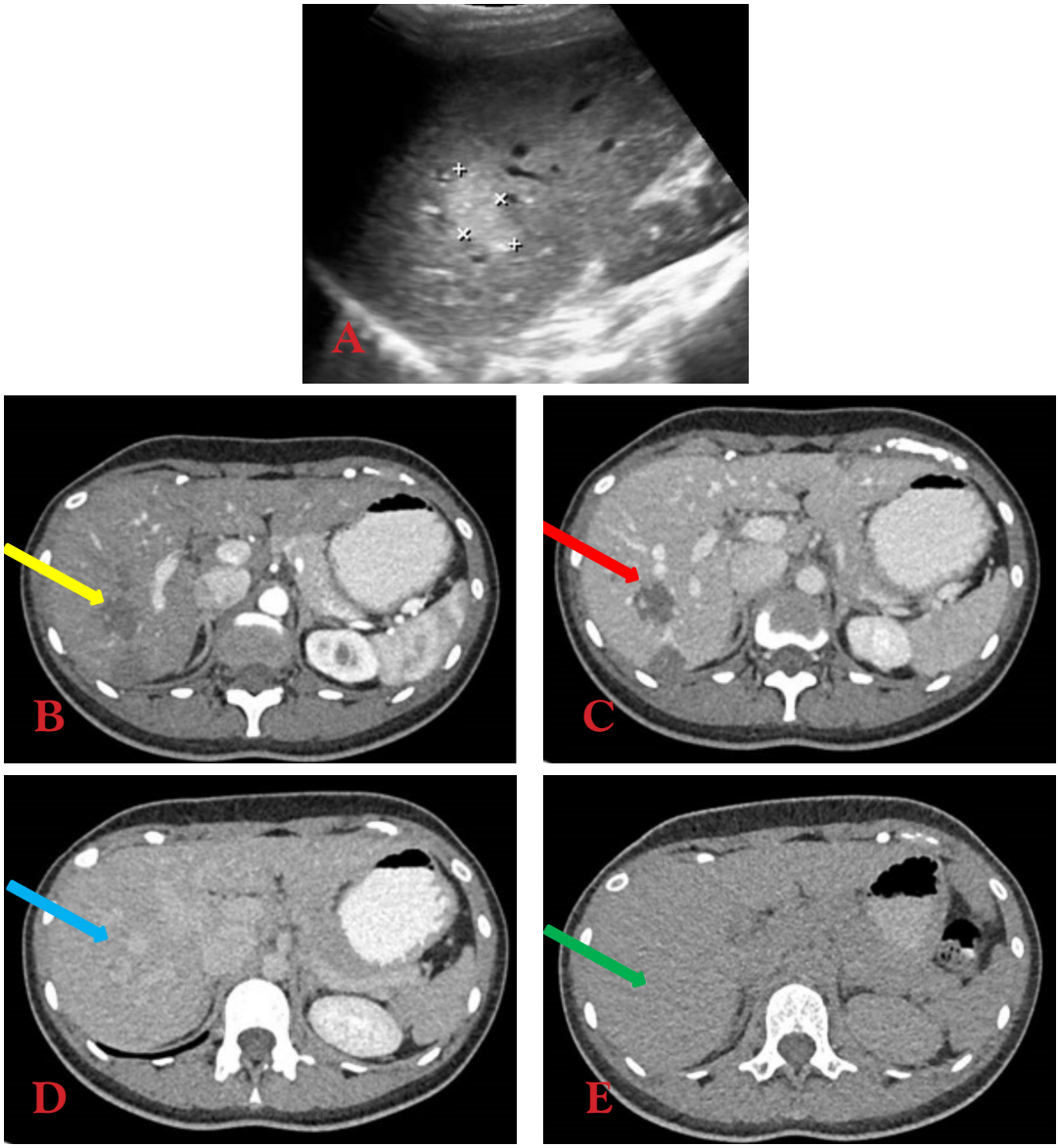

Figure I – Ultrasound and Contrast CT image of Liver haemangioma in segment VI

A : Ultrasound image: through segment VI of liver shows well defined echogenic lesion.

Figure (B-E): Dynamic CT enhancement pattern

B : Arterial phase: typically discontinuous, nodular, peripheral enhancement of contrast

C : Portovenous phase: progressive peripheral enhancement with more centripetal fill-in contrast

D : Early delayed phase: further fill-in contrast, slight hyperdense to liver parenchyma

E : Late delayed phase: isodense to liver parenchyma.

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Discussion

Hepatic haemangiomas can affect any age group, with young adult females being the most common group to have this tumour (F:M ratio 5:1).[1,2,3] Most of the tumours are detected between the third and the fifth decade of life. They are usually small (less than 4 cm in diameter) and asymptomatic, and diagnosed incidentally, either by imaging studies or during abdominal operations done for other surgical indications. For the majority of people who are known to have liver haemangioma, the natural history remains uneventful. The tumours do not increase in size over time, and therefore are unlikely to generate future symptomatology.[1,2]

Diagnosis

The importance of hepatic haemangioma comes from its relatively high incidence in comparison to other focal liver lesions, its occurrence as an incidental finding in medical imaging, and the need to differentiate it from other more serious focal liver lesions. The latter consideration is particularly important in patients with primary malignant neoplasm and in patients with liver cirrhosis. In the former, it is important to differentiate haemangioma from liver metastasis. In the latter, it is important to differentiate it from hepatocellular carcinoma.

On conventional ultrasound, hepatic haemangioma appears as a *hyperechoic homogenous nodule*, with well-defined margins and posterior acoustic enhancement. Moreover, on follow-up exams or while comparing the current scan with the previous ones, hepatic haemangioma usually does not change in size.

The typical hepatic haemangioma appears on CT scans as a hypodense, well-defined lesion, which after contrast injection shows peripheral nodular enhancement with progressive centripetal homogeneous filling. The washout of contrast is the key feature for diagnosis.

Histology sampling

Macroscopically, these tumours are hypervascular, well-circumscribed lesions; while microscopically, they are described as variably sized vascular spaces lined by flat endothelial cells, filled with ectatic blood and separated by fibrous septa.[1,2]

Due to its vascular nature, biopsy with histological sampling has a great risk of haemorrhage (especially in large, subcapsular lesions), including mortality. Biopsy is thus reserved for extremely atypical lesions, with equivocal features on imaging.

Natural History

Most hepatic haemangiomas are small and asymptomatic at the time of diagnosis and the evolution is relatively stationary.[3] There is no data in literature to suggest malignant transformation. According to existing data, there is no known pharmacological therapy able to reduce the size of hepatic haemangioma.

Prognosis

Most people with hepatic haemangioma require no active treatment besides regular follow-ups and radiologic studies. There is a small number of cases with rapid volumetric growth or complications, which prompt for appropriate therapy.[2]

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