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## A rare case report: Giant hepatic cavernous hemangioma

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### Abstract

Hepatic cavernous hemangioma is the most common benign tumour of liver. Most of them are small in size and asymptomatic. Giant hepatic hemangiomas are uncommon with rare complications of rupture and haemorrhage. We report here a 41 year old female with asymptomatic giant cavernous hemangioma. Pre-operative findings was suspected on CT scan. Pathological findings of the resected mass were consistent with giant cavernous hemangioma. The patient was discharged post operatively without further complications and the patient condition was found to be improved during follow up.

**Keywords:** Cavernous hemangioma, liver, surgery

### Introduction

Hepatic cavernous Haemangioma is the most common benign hepatic tumour. Most cases are solitary, asymptomatic and diagnosed incidentally <sup>[1]</sup>. It is common in middle aged women <sup>[2]</sup>. Most of the patients with hepatic haemangioma do not show any clinical symptoms and are only followed up.

Treatment is necessary when the tumour size increases to the point of causing symptoms such as abdominal pain, vomiting, weight loss and even serious complication such as tumour rupture or bleeding <sup>[3, 4, 5]</sup>. Pain can occur from haemorrhage or infection and spontaneous rupture <sup>[6]</sup>. Bleeding diathesis is seen due to various mechanisms including thrombocytopenia and DIC <sup>[7]</sup>. Clinically the most common type is cavernous haemangioma and patients have an excellent prognosis because of the benign nature of hemangioma <sup>[8]</sup>.

### Case report

Our patient is a 41 yr old female presented with complaint of mass over right side of upper abdomen of 6 months duration. No history of loss of weight, appetite. No complaint of abdominal pain, abnormal bowel/bladder complaints. No history of vomiting, loose stools/epigastric pain/jaundice. No history of fever, chills and difficulty in breathing. No history of previous surgeries. Patient is a known case of hypothyroidism and allergic rhinitis. Patient gives history of irregular menstrual cycles and underwent MIRENA insertion few months back.

### Examination findings

Pulse 71/min regular, BP 120/80 mm/hg, cardiovascular system, Respiratory system and Nervous system showed no abnormalities.

**Per abdomen findings:** Soft, right lobe of liver palpable with well-defined margins moving with respiration. Liver span of about 16cm hepatomegaly, non-tender.

Laboratory findings: CBC - Hb - 13.3 g/dl, Total white cell count -  $16.49 \times 10^3/\text{ul}$ , Platelets -  $162 \times 10^3/\text{ul}$ . Differential count-Neutrophils - 93%, Lymphocytes - 04%, Monocytes - 03 %

Renal function tests were within normal limits.

LFT shows mildly elevated Total bilirubin and direct bilirubin.

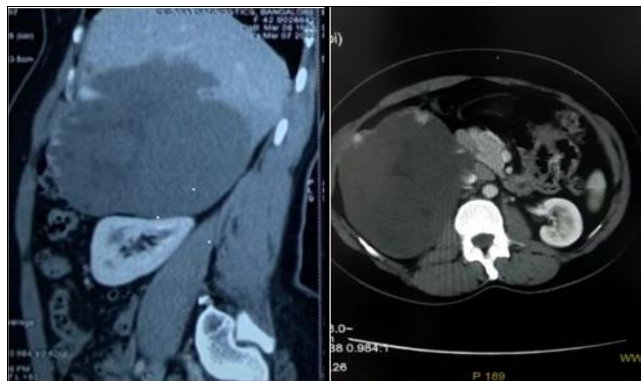
Prothrombin time and INR were mildly elevated.

CT finding - Large well defined exophytic hypodense space occupying lesion noted in segment 5 and 6 of Right lobe measuring 15x11x13cm (figure 1&2).

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**Fig 1 & 2:** CT scan showing hypodense space occupying lesion segment 5 & 6.

**Operative procedure:** Right hepatic lobectomy was done under general anaesthesia.

**Gross examination:** Received right lobe of liver. Outer surface appears congested with bluish discoloration and

periphery shows normal liver. Cut section shows a brownish discoloration with spongy area measuring 11x9x7cm (figure 3 &4).



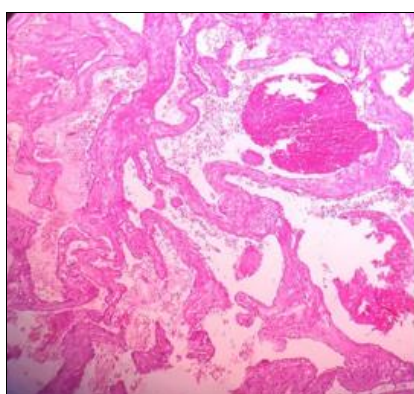
**Fig 3:** Showing external surface of liver with bluish discoloration



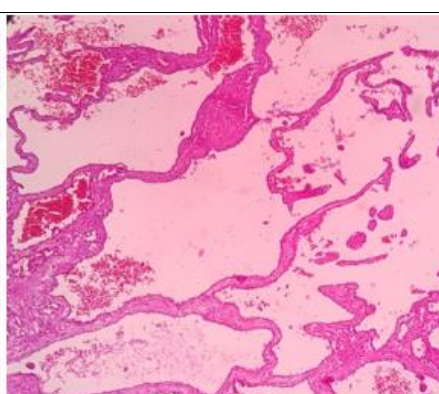
**Fig 4:** Cut section revealed well defined grey brown area with hemorrhage

**Microscopy:** Showed liver parenchyma with a lesion composed of variably sized vascular channels lined by flattened endothelial cells. The vascular channels are separated by fibrous stroma. Organising thrombi are noted

in the lumen. There is no evidence of atypical cells in the sections. Periphery shows normal liver parenchyma (figure 5&6).



**Fig 5:** Cut section revealed well defined grey brown area with hemorrhage



**Fig 6:** Shows dilated vascular channels lined by flattened endothelium

**Discussion**

A hemangioma larger than 4 cm is classified as a “Giant hemangioma and causes abdominal discomfort or pain as tumor size increases. Various imaging technique are used to diagnose hemangioma such as ultrasound, CT, MRI. Occasionally position emission tomography (PET) or angiography are used for diagnosis [10]. Using ultrasound, hemangioma appear as uniform hyperechoic mass with clear margins but can appear hypoechoic when the mass is accompanied by haemorrhage,

fibrosis or calcification [11]. The pathophysiology of hemangioma is not clearly defined, it is known that abnormal vasculogenesis and angiogenesis may be involved [12]. These process occur by an increase in angiogenic factors such as vascular endothelial growth factors and matrix metalloproteinases (MMPS) and a decrease in anti- angiogenesis factors [13, 14]. Tumor growth is promoted by high blood estrogen levels during puberty, pregnancy, and oral contraceptive use and androgen treatment [15]. Histopathologically they are characterised by

dilated vessels lined by flattened epithelium. The vessels may be engorged with blood. Some cases show organising thrombi with superimposed dystrophic calcification. Cavernous hemangiomas are components and several syndromes: Kasabach Meritt syndrome associated with large cavernous hemangioma usually an extremity, complicated by thrombocytopenic purpura. Maffucci syndrome characterised by multiple cavernous hemangioma and enchondromas. Most cavernous hemangiomas grow slowly, others remain stationary for years and a few may even resolve spontaneously. Observation and ultrasound examination every 6-12 months seem the most sensible approach in this situation<sup>[16]</sup>. If symptoms occurs or rapid growth is documented, surgery should be recommended especially if tumour is superficial and thus more, susceptible to trauma.

Surgery is advisable if the patient is a female in her fertile years, as there is a suggestion that this tumour is estrogen dependent and rapid enlargement has been documented during pregnancy<sup>[17]</sup>.

Multiple, diffuse or massive hemangimas like are beyond curative surgery. Irradiation is used and proved successful<sup>[18]</sup>.

### Conclusion

Giant cavernous hepatic hemangioma are rare benign tumours of liver. They should be included in the differential diagnosis of liver lesions. Imaging studies like ultrasound, CT and MRI are useful in diagnosing these tumours. All giant hemangiomas must be surgically removed to avoid further complications.

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