CAVERNOUS HAEMANGIOMA OF THE LIVER — A CASE REPORT

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SYNOPSIS

Massive cavernous haemangioma of the liver is uncommon. Though angiography is usally diagnostic, it has its limitations. Resection of the symptomatic angioma is the treatment of choice. However, other modalities of treatment in cases where major resection is too hazardous or impossible, are also discussed.

INTRODUCTION

While asymptomatic small angiomata of the liver are not infrequently detected at necropsy, large lesions are uncommon. When clinically evident, it may give rise to much diagnostic and therapeutic dilemma. The following case is the first experienced in the University Department of Surgery.

CASE REPORT

Madam T, a 50-year-old post-menopausal Chinese mother of 4, experienced upper abdominal discomfort and fullness during the past 2½ years. She was ultimately referred on the discovery of hepatomegaly by her practitioner. Examination revealed a healthy, slightly obese woman. The right lobe of the liver was enlarged 8 cm below the costal margin in the mid-clavicular line. It was firm, smooth and non-tender. No bruit was detected on ascultation. The initial clinical impression was that of malignant liver neoplasm. Haematological and liver function tests were normal. Alpha foeto-protein was absent. No abnormality was detected at upper G.I. endoscopic examination. Abdominal X-rays revealed a large liver with no area of calcification. Selective hepatic angiography suggested an extremely vascular tumour causing gross enlargement of the right lobe of the liver (Fig. 1). Radiological opinion was that of a vascular malignant neoplasm.

At exploration through a right thoraco-abdominal incision a big soft tumour was found to be embedded within the right lobe of the liver. The liver surface was normal in appearance (Fig. 2). A standard right hemi-hepatectomy was performed. During the procedure, large vascular connections were encountered during separation of the triangular and coronary ligaments. Some difficulty was encountered in isolating the right hepatic vein due to

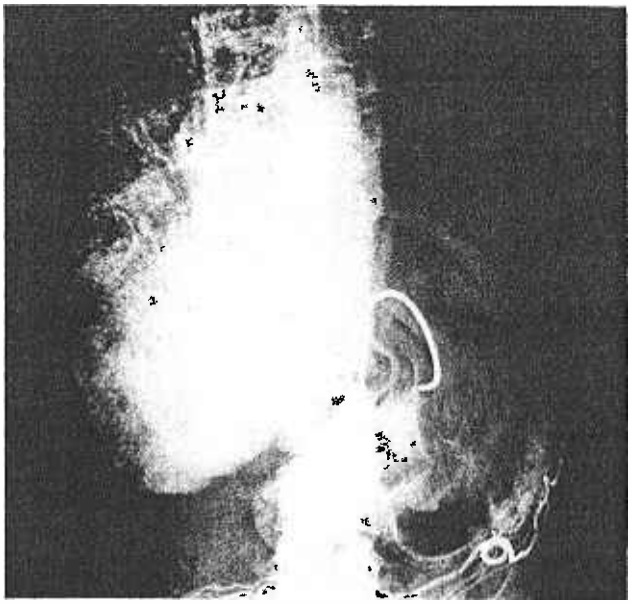

Fig. 1. Selective angiogram showed extremely vascular tumour.

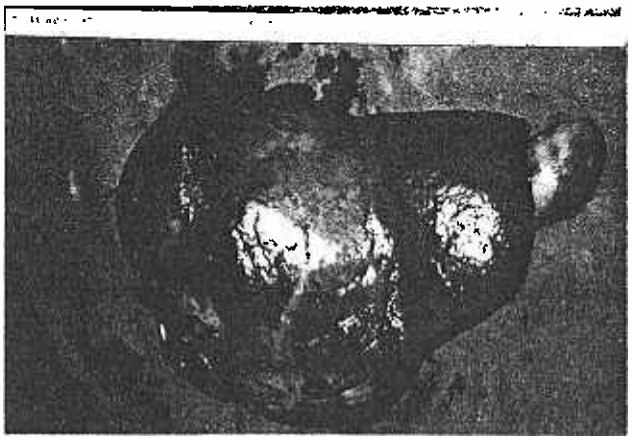

Fig. 2. Surface of enlarge right lobe appeared normal.

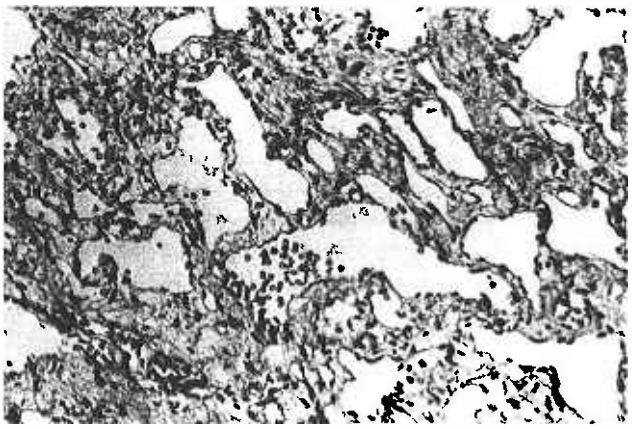

Fig. 3. Endothelial-lined blood-filled cavernous spaces separated by connective tissue stroma. (H & E. X 100)

the size of the tumour. As estimated 7 litres of blood was lost during the procedure. The post-operative recovery was surprisingly uneventful with minimal disturbance to liver function.

Histology revealed a big cavernous haemangioma (Fig. 3).

DISCUSSION

Haemangiomas of the liver are uncommon. In 2400 autopsies reviewed by Oschsner (1), the incidence was found to be 2%. Henson (2) of Mayo Clinic only collected 35 hepatic haemangiomas from 1907 - 1954 inclusive. The lesion is predominantly found in female, about 4.5 times (3) higher than the male. These was no specific age distribution (1), but those presented clinically were usually around 50 years of age (2) as noted in our present case.

Most authorities agree that hepatic haemangiomata are harmatomatous malformation (1, 4). Noting the high incidence of multiparity in association with these lesions, female sex hormones may have a role in their development (4). Our patient was a mother of 4, and she has never been exposed to the "pill".

Multiple haemangiomata occur in about 10%. The solitary lesion often affects the right lobe, as noted in this case. In general these tumours are soft and cystic but consistency may vary with the amount of thrombosis and subsequent fibrosis that may occur. The microscopic features are characteristic (Fig. 3). These consist of large irregular spaces filled with blood, lined by endothelium and separated by connective tissue septae. Areas of fibrosis suggest regressive features.

Ishak (4) reviewed 89 cases and found only 13.5% with clinical symptoms. Non-specific upper abdominal symptoms due to pressure from hepatomegaly are usual. Upper abdominal swelling was the commonest symptom (5). The hepatomegaly in palpable lesions may range from 5 cm to huge proportions. However such enlargements were usually mistaken for the more common malignant tumours as the case presented here. A soft smooth non-tender hepatomegaly should alert one of the possibility, of an angioma. Occasionally sudden intra-abdominal pain may occur from rupture of angioma. Thrombocytopenia and hypofibrinogenaemia occasionally occur (4). Angiography is the most useful investigation in pre-operative diagnosis. Cavernous haemangiomas show large feeding vessels which are displaced and crowded together at their edges. They contain large varix-like spaces which are rapidly filled with contrast material and remain densely opacified throughout the entire angiographic examination. Our patient showed excessive vascularity of the lesion but other characteristics were absent. Hence primary hepatoma was diagnosed pre-operatively.

Some forms of active treatment must be instituted in patients with big lesions or progressively enlarging lesions in view of documented evidence of bleeding (2, 5, 6). Most would agree that lesions confined to surgically resectable lobes of the liver should be excised (2, 3, 5). Pedunculated lesions can be removed with ease. Non-resectable lesions may be treated with hepatic artery ligation (7), though there have been reports suggesting recurrence after such a procedure. Again, when resection is considered hazardous or impossible specially for the diffuse lesions, radiotherapy has proved to be an effective alternative treatment (2, 8, 9).

It is to be noted that once a suspicion, clinically or radiologically of such a lesion, any form of biopsy is

extremely hazardous and should be avoided. Uncontrollable haemorrhage can occur even after a simple needle aspiration (2). Pre-operative biopsy was not done in the present case because of the extreme vascularity demonstrated at radiology.

Excision of these large haemangioma is to be undertaken with great caution and requires much experience in hepatic surgery. Life threatening exsanguination may occur during the procedure. Seven litres of blood was lost during the resection in this case.

REFERENCES

1. Oschsner J L and Halpert B: Cavernous haemangioma of the liver. Surgery 1958; 43: 577-582.
2. Henson S W JR, Gray H K and Dockerty M B: Benign tumours of the liver. Surg. Obst. Gynae. 1956; 103: 327-331.
3. Shumacker H B and Baltimore: Haemangioma of the liver. Surgery 1942; 42: 209-220.
4. Ishak K G and Rabin L: Benign tumours of the liver. Med. clinic N. America 1975; 59: 995-1013.
5. Ecker J A and Doane W A: Massive cavernous haemangioma of the liver. Amer. J. Gastro-enterology. 1969; 52: 25-35.
6. Caldwell K P S: Spontaneous intraperitoneal haemorrhage due to haemangioma of liver. Brit. Med. J. 1950; 2: 1155.
7. Delorimier A A, Simpson E B, Baum R S and Carlsson E: Hepatic artery ligation for hepatic haemangiomatosis. The New England J. Med. 1967; 277: 333-336.
8. Issa P: Cavernous haemangioma of the liver - the role of radiotherapy. Brit. J. Radiotherapy. Brit. J. Radiol. 1968; 41: 26-32.
9. Ray B S: Large cavernous haemangiomata of the liver. Ann Surg. 1939; 109: 373-381.