

Right extended hepatectomy for the treatment of symptomatic cavernous giant hepatic hemangioma

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Abstract

Cavernous hemangiomas are the most common benign tumors of the liver. Most of them are asymptomatic and may be managed with observation, but in some situations they can reach large dimensions and may produce a great variety of symptoms that normally requires surgical treatment. Although enucleation is the technical of choice because offers greater preservation of hepatic parenchyma and fewer complications; in cases of giant hemangioma, an extended hepatectomy is often recommended. We report a case of a 44 year old man with a symptomatic cavernous giant hepatic hemangioma that was treated by a right extended hepatectomy after two arterial embolization procedures unsuccessful.

Keywords: Cavernous hemangioma; Giant hemangioma; Hepatectomy; Enucleation; Treatment.

Introduction

Cavernous hemangiomas are the most common benign tumors of the liver, with an incidence of 0.4-7.3% in autopsy series⁽¹⁾.

Most of the lesions are asymptomatic and may be managed with observation, but in some situations they can reach large dimensions and may produce a great variety of symptoms⁽²⁻⁶⁾.

Surgical treatment is often controversial, but in general, the commonest indications for surgery are the presence of symptoms, large or increasing size, uncertain diagnosis and complications⁽⁷⁻¹²⁾.

There is continuing debate regarding the ideal method of surgical treatment for liver hemangiomas. Although enucleation is the technical of choice because offers greater preservation of hepatic parenchyma and fewer complications; in cases of giant hemangioma, an extended hepatectomy is often recommended⁽¹³⁻¹⁵⁾.

Case report

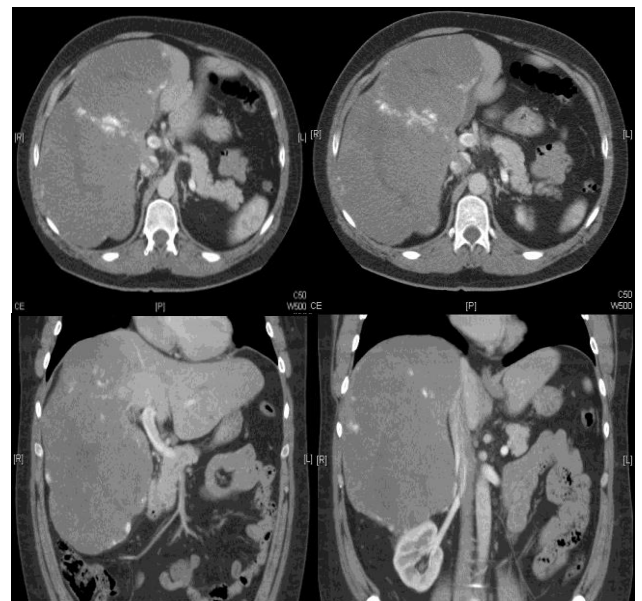
A 44-year old man presented to our hospital with complaints of upper abdominal distention, gastric outlet obstruction and appetite loss. A computed tomography (CT) scan revealed a giant hepatic hemangioma.

Two arterial embolization procedures were attempted in order to restrict the hemangioma growing, but it brought no benefits and worsened the symptoms because of the increasing size of the hemangioma.

Initial laboratory tests revealed the following: serum hemoglobin concentration 12.2 g/dl; serum platelet count 177000/ μ l; serum concentration of carcinoembryonic antigen was 1.1ng/ml; CA 19-9 was 5.7 UI/ml; alpha-fetoprotein was 1.8ng/ml; all the coagulation parameters were also normal.

Preoperative CT scan demonstrated a giant hemangioma in the enlarged right lobe of the liver. The inferior cava vein, right renal vein and artery were compressed by tumor.

The left kidney, pancreas, duodenum, gallbladder and aorta were moved to a left and caudal place. There was no flow of blood in the right portal vein (Fig. 1-4).



Figures 1-4: Preoperative CT scan.

The patient went to theatre and a right extended hepatectomy was performed (Fig. 5). Due to the large size of the tumor, we performed a combination of midline and right subcostal laparotomy. We tried to mobilize the right lobe of the liver, but doing so was difficult because of the size of the tumor. Moreover, we could not perform the liver-hanging maneuver, because of the compression of the inferior cava vein.

After hilar dissection and division, the hepatic parenchymal resection was performed with the Cavitation Ultrasound Surgical Aspirator (CUSA).

Blood loss during surgery was 2500 ml. Hemostasis of the cut surface of the liver was achieved by application of a

fibrin glue spray (Glubran®). An external 19 Fr silicon drain was positioned at the site of resection.

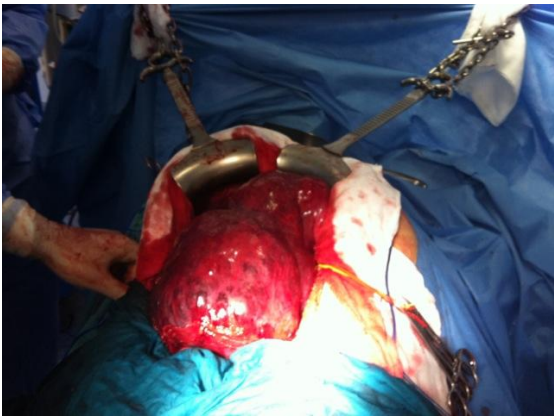


Figure 5. Intraoperative view of giant liver hemangioma.

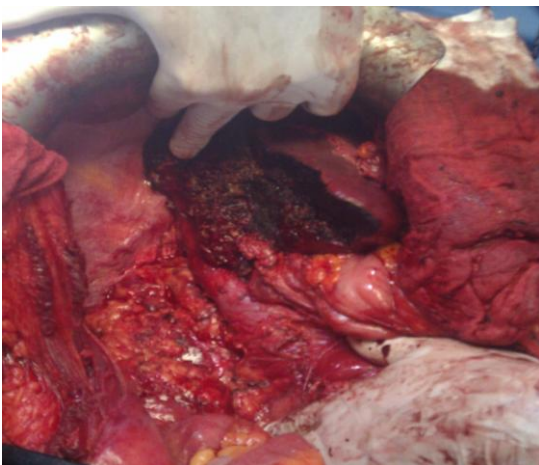


Figure 6. Aspect of the liver after right hepatectomy

The size of the resected specimen was 27 x 28 x 8 cm and the weight was 2919 g.

Pathologic examination of the surgical specimen confirmed the diagnosis of giant cavernous liver hemangioma.

The postoperative course was uneventful and the patient was discharged 7 days after the operation.

A postoperative CT scan revealed absence of recurrence and hypertrophy of the left lobe of the liver (Fig. 6-7).



Figures 7-8: CT scan after surgery.

Two years after operation, symptoms have disappeared and patient remains asymptomatic.

Discussion

Cavernous hemangiomas are the most common benign tumors of the liver, with an incidence of 0.4-7.3% in autopsy series⁽¹⁾. These lesions are more prevalence in women and between the third to fifth decades of life. Hepatic hemangiomas are usually solitary lesions but in a few cases (10%) are multiple⁽⁷⁾.

A giant hemangioma is defined as a hemangioma larger than 4 cm in diameter. These lesions tend to remain stable in size. Most of them are asymptomatic and may be managed with observation, but in some situations they can reach large dimensions and may produce a great variety of symptoms (abdominal pain, early satiety, vomiting, fever, obstructive jaundice, biliary colic, Kasabach-Merritt syndrome...)⁽²⁻⁶⁾. In our case, although patient was initially asymptomatic, the hemangioma not only does not remain stable but increase its size even two arterial embolization procedures were attempted.

There is a controversy regarding the ideal treatment of giant hemangioma of the liver. Some authors, on the basis of long-term follow-up of such lesions, propose that most of these lesions do not require any treatment⁽⁷⁻⁹⁾. However, the classic paradigm of preventive operative resection remains. Schnelldorfer et al⁽⁸⁾, showed that clinical observation of patients with giant hemangioma had a similar rate of complications compared with operative management (20% vs. 14%; $p=0.45$), but might prevent the need for invasive interventions in some patients. So they recommended clinical observation, reserving the operative treatment for patients with severe symptoms or disease-associated complications.

In case of uncertain diagnosis, surgery is mandatory. The risks of haemorrhage as a result of biopsying a giant hemangioma are appreciable and together with the risks of needle track seeding and intra-abdominal dissemination of a potentially curable malignancy, mean that biopsy in this setting must be avoided⁽⁷⁾.

Numerous treatments have been described such as drugs, arterial embolization, radiation therapy, liver resection and liver transplantation. However, the only consistently effective method of treatment is surgery^(2,7).

In recent years, few reports of the successful use of angio-embolization have been published⁽¹⁶⁻¹⁷⁾; we think this form of therapy may be only useful in symptomatic high surgical risks patients or as a 'brigde to surgery' in case of unresectable giant hemangiomas in order to reduce its size⁽¹⁸⁾.

In general, surgery should be considered if presence of symptoms, large or increasing size, uncertain diagnosis and complications⁽⁷⁻¹²⁾.

There is continuing debate regarding the ideal method of surgical treatment for liver hemangiomas. Although enucleation is the technical of choice because offers greater preservation of hepatic parenchyma and fewer complications; in cases of giant hemangioma, an extended hepatectomy is often recommended⁽¹³⁻¹⁵⁾.

In this case, we selected the anterior approach because the mobilization of the right lobe of the liver so was difficult, and the liver-hanging maneuver could not be performed

because the compression of the tumor onto the inferior cava vein.

In conclusion, decisions-making with regard to the optimal management of giant hemangioma depends on many factors and an individualized approach is essential. Clinical observation is preferred in case of absence of symptoms. Surgery remains the only consistently effective curative of treatment for giant hemangioma. Although enucleation offers benefits related to lower operation morbidity, in case of large and giant hemangiomas, an extended hepatectomy may be recommended.

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