

Surgical Treatment of Giant Liver Hemangioma; Case Report and Literature Review

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ABSTRACT:

Surgical treatment of giant liver hemangioma; case report and literature review

Objective: Hemangiomas are the most common benign primary hepatic neoplasms, often being incidentally discovered. In most of the cases they are small, asymptomatic and often require follow up. Giant hemangiomas are known as being larger than 5 cm. It mostly consists of a cavernous haemangioma, is usually asymptomatic, diagnosed incidentally. We aimed to show that giant hemangiomas would be treated safely with surgical resection without transarterial embolization before the surgery.

Methods: We present a 56 year old male patient with liver hemangioma, that is diagnosed incidentally on thorax computerised tomography who consulted to thorax disease clinic with coughing complaint for a month. A case ,mentioned rarely in literature, of a 30 cm sized asymptomatic giant cavernous hemangioma treated by surgical resection without no complication.

Conclusion: We suggest that some patients should go through surgical treatment even if they don't have any complaint. Not only symptoms but also size and risk of rupture by trauma should be considered in these cases. But all possible circumstances must be taken under consideration. Transarterial embolization isn't the necessarily.

Keywords: Cavernous hemangioma, giant hemangioma, hepatic hemangioma

ÖZET:

Dev karaciğer hemanjiomunun cerrahi tedavisi; vaka sunumu ve literatürün gözden geçirilmesi

Amaç: Hemanjiyomlar en yaygın benign primer hepatik tümörler olup, çoğunlukla tesadüfen keşfedilmiştir. Olguların çoğunda küçük, asemptomatik ve genellikle takip gerektirirler. Dev hemanjiyomların 5 cm'den büyük olduğu bilinmektedir. Çoğunlukla asemptomatik tesadüfen saptanan kavernoöz hemanjiomdan oluşur. Biz bu olgu sunumunda dev hemanjiomların ameliyat öncesi transarteriyel embolizasyon yapılmadan güvenle cerrahi olarak tedavi edilebileceğini göstermek istedik.

Yöntem: Göğüs hastalıkları kliniğine 1 aydır olan öksürük şikayeti ile başvuran hastada tesadüfen toraks tomografide saptanan karaciğer hemanjiomlu 56 yaşındaki hastayı sunmaktayız. Bu olguda literatürde nadir bahsedilen 30cm boyutundaki asemptomatik dev kavernoöz hemanjiom cerrahi rezeksiyonla komplikasyonsuz olarak tedavi edildi.

Sonuç: Biz bazı hastalara herhangi bir şikayetleri olmasa bile cerrahi tedavi uygulanması gerektiğini öneriyoruz. Bu vakalarda semptomların yanı sıra boyut ve travma ile rüptür olma riski de göz önüne alınmalıdır. Transarteriyel embolizasyon zorunlu değildir.

Anahtar kelimeler: Kavernoöz hemanjiyom, dev hemanjiyom, hepatik hemanjiyom

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INTRODUCTION

Hemangioma is the most common benign tumour of the liver which affects 3%-20% of the general population and also is diagnosed on autopsies (1-3).

The female to male ratio of the incidence of hemangiomas is 5:1, and they are identified more frequently in middle-aged women (3). Although its pathogenesis is not clear, it is thought that hepatic haemangioma (HH) is a congenital vascular

	Capillary h.	Cavernous h.	Sclerosed h.
Histological composition	Reduced vascular spaces Extensive connective tissue	Large vascular spaces Not very extensive connective tissue	Extensive beginning fibrosis at the centre of the lesion
Size	Small size (in general < 1 cm)	Lesion < 3 cm = typical appearance. Giant > 4 cm	Average size (3.7 cm on the average)
Morphology	Nodular, homogenous	Well defined, internal septa	Geography map appearance, central scar, capsular retraction, punctiform calcifications

Table 1. Characteristics of the typical histological appearance of hepatic hemangiomas

malformation or hamartoma (4-6). Histologically, it is a mesenchymal lesion consisting of blood-filled vascular cavities of different size, surrounded by a simple layer of flat endothelial cells, supported by a fibrous connective tissue. In its typical form, three histological sub-types have been described: the capillary haemangioma, the cavernous hemangioma and the sclerosed hemangioma (Table-1) (7).

It is usually diagnosed incidentally on screening; like ultrasonography (US), computerised tomography (CT) or magnetic resonance imaging (MRI). In the sonograph, it is a hyperechogenic, homogenous lesion presenting a posterior acoustic enhancement. In unenhanced CT, the density of the lesion is the same with the vessels. In MRI, the lesion presents an homogenous and hyperintense on T2-weighted images, hypointense on T1 weighted images and the absence of restriction of the apparent diffusion coefficient (ADC) (8,9).

Giant hemangiomas are known as being larger than 5 cm. It mostly consists of a cavernous haemangioma, is usually asymptomatic, diagnosed incidentally often require routine follow up. Indications for surgery include the presence of progressive abdominal symptoms, spontaneous or traumatic rupture, rapidly enlarging lesions, Kasabach–Merritt syndrome and unclear diagnosis (suspect of malignancy) (10-12). Four types of surgical

procedures including liver resection, enucleation, hepatic artery ligation, and liver transplantation can be applied (13-16).

Resection and enucleation are the most commonly used surgical methods. In this operation the most feared risk is massive intraoperative hemorrhage; especially in giant hemangiomas larger than 10cm in size, because of the likelihood of major vascular injury when resecting or enucleating the hemangioma (17,18).

We report a case of asymptomatic cavernous hepatic hemangioma about 30 cm in diameter protruding from left lobe to lower abdomen.

CASE

A 56 year old male incidentally is diagnosed on thorax CT (Figure-1) who consulted to thorax disease clinic with coughing complaint for a month. When he was scanned with thorax CT a giant liver hemangioma was seen at the lower images which was about 30 cm. He was directed for consultation to our clinic. In our examination we palpated a mass which lies from under the right subcostal to the paraumbilical area. We screened the mass with US and MRI (Figure-1).

We diagnosed the 30 cm giant hemangioma originating from sol hepatic lobe and very close to

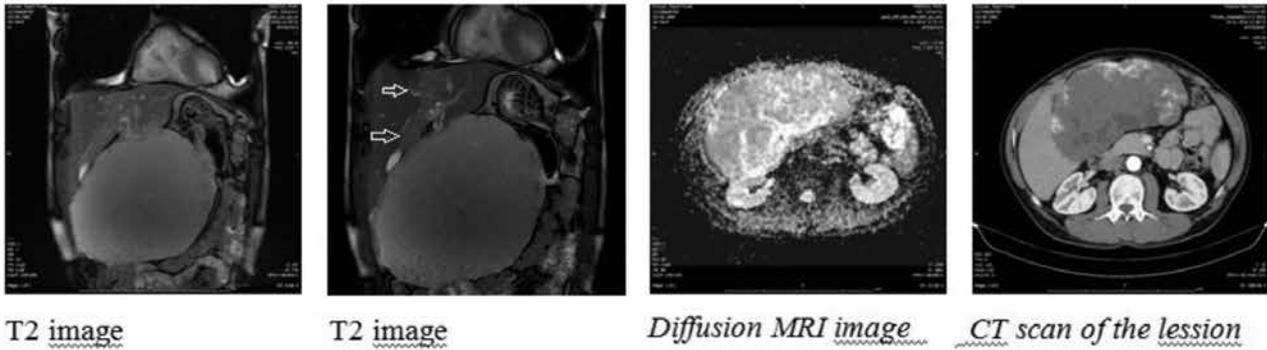


Figure-1: Abdomen MRI and Thorax CT images

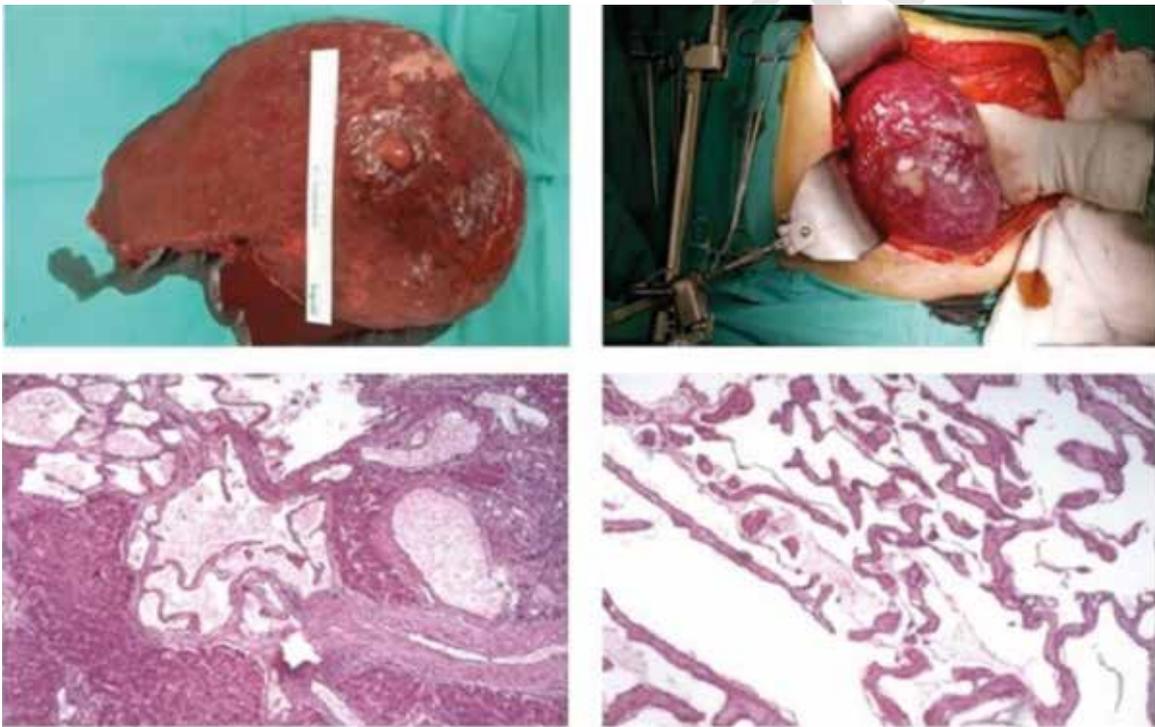


Figure-2: Intraoperative and pathological images

gallbladder. He showed no symptoms about this situation. We decided to operate after we tried embolization which was unsuccessful because of technical difficulty. All of the complications about surgical procedure including death were explained and patients' consent for surgical procedure was obtained. On admission, patients' all laboratory parameters were normal except platelet level. It was 132×10^3 . We prepared blood suspensions for transfusion (erythrocyte, thrombocyte susp etc..).

During the operation we made chevron incision. When we entered to the abdomen we saw a cavernous mass which covers 2/3 of abdominal cavity. We elevated a mass to reach to hepatoduodenal ligament. There was no invasion. Then done left hepatectomy within 25 minutes (Figure-2). After resection we made hemorrhage control and the raw surface of the liver was checked for bile leaks and the omentum was placed over the free surface; a silicone drain was placed to allow postoperative bile leakage and

hemorrhaging to be monitored. After 4 days the patient was discharged and no complication was observed. Pathological result came as cavernous hemangioma (Figure-2).

DISCUSSION

So many literatures say that the size isn't the absolute criteria for surgical treatment of hemangioma. Giant hemangiomas are usually silent, show no symptoms and recognized incidentally (19). Etemadi et al. (20) reported that pain was attributed to hemangioma in only 12.6% of patients. They have a low but relevant risk of rupture (3.2%) (21). The presence of symptoms (abdominal pain or discomfort) mostly are the indication for surgery. Increasing size, intratumoral thrombosis or hemorrhage may cause pain, as a result of liver capsule distension. Abdominal fullness and palpable masses are associated with space occupation or compression caused by the lesion (19,22,23). Zang et al. (24) found that 66.3% (57 of 86) of the patients had abdominal discomfort, pain or a palpable mass.

Besides surgical resection; radioterapy, hepatic arter ligation or embolization can be applied to these cases (25,26). In our case, there was a giant hemangioma, almost 30 cm, with no complaint which could be palpated on the abdominal wall. Actually it was surprising that he hadn't realized such a huge mass on the abdominal wall. Even though there was no complaint, we decided to performe surgical resection because of rupture risk (trauma etc.). Once a hepatic hemangioma ruptures, the mortality rate may be as high as 70% (27). Also giant or cavernous hemangiomas larger than 10 cm are rare and ones reaching 20-40+cm (28) are even more rare in literature. Some surgeons, on the contrary to the latter, prefer to conduct surgery rather than to proceed with observation (29,30).

The most common surgical procedures are enucleation and resection. Some surgeons prefer enucleation some of them resection. Between two

techniques, there are some advantages and disadvantages. It is said that, enucleation is performed in a shorter operative time and causes less intraoperative bleeding (24,31-33). On the other hand, by surgical resection, occluding left hepatic vein, making pringle maneuver and decreasing central venous pressure (supported anesthesia) the operative time can be shortened and bleeding can be less. On the contrary when enucleation is being performed and if you enter capsule of hemangioma; it can be hard to get bleeding under control. Also in our case hemangioma was covering nearly all the left lobe. Some researchers say that preoperative embolization of hemangioma is useful and decreases bleeding. Most of the reports published to date have used transarterial embolization (TAE) to convert inoperable hemangiomas into operable ones. Because embolization reduces the size of mass, surgical maneuvers can be done more easier (34,35). The common complications of TAE for the treatment of hepatic hemangiomas are nausea, vomiting, abdominal distention, fever, hepatic dysfunction, abnormal embolization and intrahepatic bile duct injury (36,37). On the other hand, evidence supporting the role of preoperative angiography and embolization is less clear. Results of this procedure are controversial because of the fear of causing ischemia, intracavitary bleeding or infection (26). In our case we tried to conduct embolization preoperatively. But was not succesfull, hence we preferred left lobectomy.

CONCLUSION

We report a giant hemangioma successfully treated with surgical resection. We suggest that some patients who have giant hemangioma, should go through surgical treatment even if they don't have any complaint. Not only symptoms but also size and risk of rupture by trauma should be considered in these cases. But all possible circumstances must be taken under consideration.

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