

# Surgical treatment of painful hepatic hemangioma

## Tratamento cirúrgico do hemangioma hepático doloroso

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### ABSTRACT

Hemangiomas are the most common hepatic benign lesions. They occur most frequently in young female patients. These tumors are generally found by radiological imaging and, of such examinations, nuclear magnetic resonance is the best diagnostic method. Although highly frequent, it presents few symptoms. Most cases are asymptomatic and thus must be followed up by means of periodic radiological examination. Surgical treatment should be restricted to unusual situations. Spontaneous or traumatic rupture, Kasabach-Merritt syndrome, uncertain diagnosis and pain have been the most common indications. The authors describe a successfully treated case of painful hemangioma of the left hepatic lobe submitted to left hepatectomy.

**Keywords:** Liver neoplasms/surgery; Hemangioma/surgery; Liver/pathology; Case reports

### RESUMO

Os hemangiomas são os tumores benignos mais frequentes do fígado. Ocorrem predominantemente em adultos jovens do sexo feminino. O diagnóstico é radiológico e a ressonância nuclear magnética de abdome tem sido o método de maior acurácia. Em que pese sua elevada frequência, esses tumores são habitualmente oligossintomáticos e está indicado simplesmente seu seguimento com exames de imagem periódicos. O tratamento cirúrgico deve ser indicado com restrições. A ruptura tanto espontânea quanto traumática, síndrome de Kasabach-Merritt, dúvida diagnóstica ou dor têm sido as indicações mais habituais. Os autores descrevem um caso de hemangioma sintomático (doloroso) do lobo hepático esquerdo tratado de maneira bem sucedida por meio de uma hepatectomia esquerda.

**Descritores:** Neoplasias hepáticas/cirurgia; Hemangioma/cirurgia; Fígado/patologia; Relatos de casos

### INTRODUCTION

Hemangiomas are common benign hepatic tumors. It is estimated that about 20% of the general population present hepatic hemangiomas. These tumors more frequently affect females (80%) and adults in their fourth and fifth decades of life<sup>(1)</sup>. Although most cases are asymptomatic, few patients may present a wide variety of clinical courses. Among these, albeit uncommon, spontaneous or traumatic rupture is the worst severe complication, with high mortality. Thus, recommendations in the literature are that such lesions should be followed up, even when asymptomatic<sup>(2-3)</sup>.

Other than rupture cases, there are several indications for surgical resection of these tumors. Uncertain diagnosis, abdominal pain or palpable mass are the most common, although occasionally surgery may be considered in cases of fever, jaundice or Kasabach-Merritt syndrome<sup>(4-8)</sup>. If surgical treatment is indicated, it may be a formal lobectomy or lesion enucleation. It seems that both approaches present similar results<sup>(8-10)</sup>.

The authors describe a case of painful cavernous hemangioma of the left lobe. The patient complained of a pain which was hard to control, even with chronic use of opiates. This patient underwent left hemi-

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hepatectomy, which proceeded without postoperative complications. To date, two years after surgery, the patient remains with a good quality of life, and is not taking analgesics.

## CASE REPORT

A 48-year old caucasian woman complained of right-quadrant abdominal pain over a four-year period. During the last six months of this period, pain became more severe and she began to use strong analgesics such as opiate derivatives for pain control. She presented no physical or biochemical alterations. Abdominal ultrasound examination revealed a lesion measuring 5 x 5 cm, arising in the IV segment of the left hepatic lobe. This lesion was solid and heterogeneous, with a posterior acoustic shadow.

The tumor markers (AFP, CEA, CA19-9, CA 125) and hepatic enzymes were normal. Both computed tomography and nuclear magnetic resonance of the abdomen confirmed the presence of a cavernous hemangioma measuring 5 x 5 cm (Figure 1). The patient underwent several examinations, such as colonoscopy, gastroscopy, urinary tract ultrasound and orthopedic evaluation (clinical and radiological). There were no alterations in these examinations. Since there was no disease that could explain the painful syndrome, the patient underwent a left hemihepatectomy (Figures 2, 3, 4). There were no intra- or postoperative complications. The patient received no blood transfusions and she was discharged from hospital on the fifth postoperative day. The histological examination confirmed that this was a cavernous hemangioma. To date, nine months after the surgical procedure, the patient is asymptomatic and is not using analgesics.

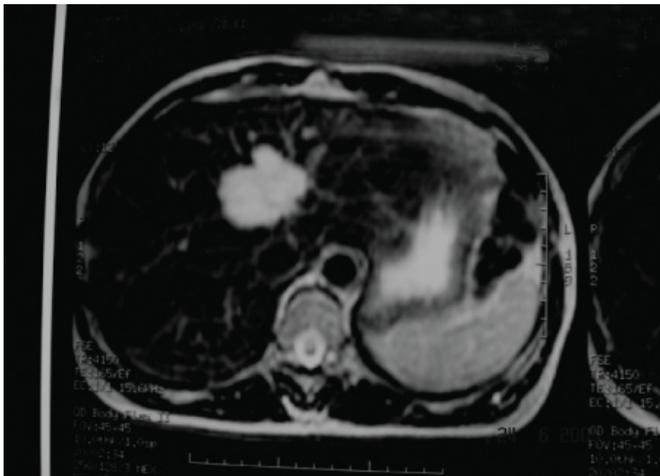


Figure 1. Radiological aspect – nuclear magnetic resonance



Figure 2. Hepatic hilar dissection

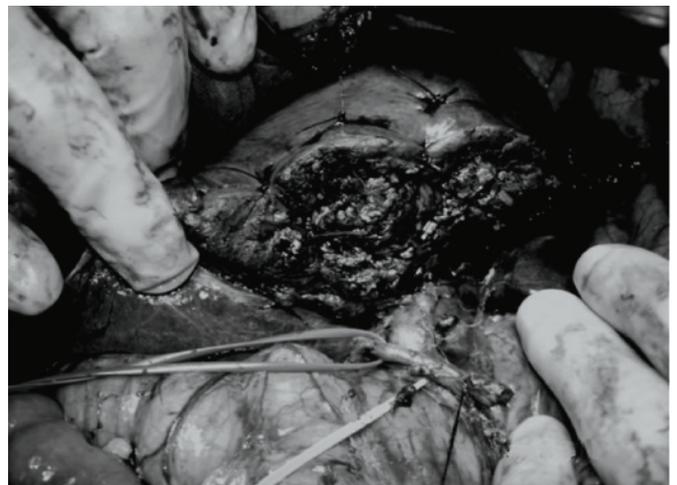


Figure 3. Left hepatectomy – final aspect

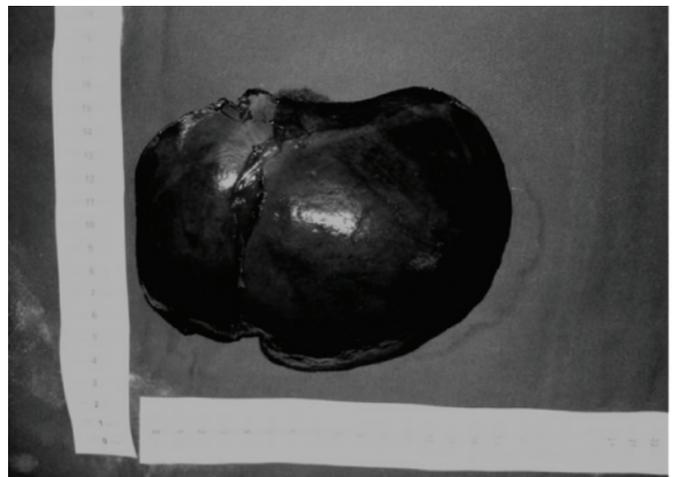


Figure 4. Left lobe (II, III and IV hepatic segments)

## DISCUSSION

Hepatic hemangiomas can be divided into two major groups. The first group, which is the most common type, consists of capillary hemangiomas. These are

generally peripheral and small (1 to 4 cm), and are sometimes multiple. The second group consists of cavernous hemangiomas, which are rarer and larger than capillary hemangiomas. These tumors can present large dimensions, and when larger than 4 cm they are called giant hemangiomas<sup>(1)</sup>.

Structurally, the tumors are composed of venous lakes with a casing of endothelial tissue, in which the blood circulates slowly. These tumors are a congenital affection that does not have malignant association. They grow by means of vascular ectasia, and never by hyperplasia or hypertrophy and are almost always asymptomatic with an indolent course. Occasionally, the tumors can present complications such as pain, abdominal mass, fever or compression of neighboring structures, such as the biliary system and stomach. More rarely, Kasabach-Merritt syndrome can occur, which is characterized by consumption of platelets, and coagulation element consumption or even arteriovenous fistula<sup>(1-10)</sup>.

When pain is present, it is noticed in epigastric or right quadrant locations. It has been associated with internal thrombosis and inflammatory processes<sup>(7-9)</sup>. While pain is a criterion for surgical indication, care should be taken to rule out painful diseases that can confound the etiological diagnosis<sup>(7-9)</sup>. Although large-sized hemangiomas may present greater risk of rupture (high mortality), there is no surgical indication when asymptomatic or uncomplicated. There is some controversy regarding the size criterion for defining what a giant case is. Some authors have considered giant hemangiomas to be 4 cm in diameter, while others have considered 5 cm, or more recently, 10 cm as the cutoff point<sup>(7-10)</sup>.

The ideal treatment for cavernous hemangioma is excision. Both formal hepatectomy and enucleation are acceptable<sup>(4-10)</sup>. The hemangiomas present a fibrous capsule that can facilitate enucleation. While this approach may be possible for superficial lesions, for intrahepatic lesions it should be discouraged because

of large scale bleeding. The major advantage of enucleation is the greater preservation of the hepatic parenchyma, which may be vital in case of benign diseases<sup>(7-9)</sup>. Alternative treatments, such as hepatic arterial embolization or even radiotherapy have presented worse results than resection. These should be reserved for poor candidates for surgery or those who refuse<sup>(4-10)</sup>.

Provided that hepatic resection of painful hemangioma cases is properly indicated, results can be good. Thus, it may have an important role in cases of pain that prove difficulties to control.

## REFERENCES

1. Weimann A, Ringe B, Klempnauer J, Lamesch P, Gratz KF, Prokop M, et al. Benign liver tumors: differential diagnosis and indications for surgery. *World J Surg.* 1997;21(9):983-90; discussion 990-1.
2. Bornman PC, Terblanche J, Blumgart RL, Jones EP, Pickard H, Kalvaria I. Giant hepatic hemangiomas: diagnostic and therapeutic dilemmas. *Surgery.* 1987;101(4):445-9.
3. Trastek VF, van Heerden JA, Sheedy PF 2nd, Adson MA. Cavernous hemangiomas of the liver: resect or observe. *Am J Surg.* 1983;145(1):49-53.
4. Brouwers MA, Peeters PM, de Jong KP, Haagsma EB, Klompmaker IJ, Bijleveld CM, et al. Surgical treatment of giant haemangioma of the liver. *Br J Surg.* 1997;84(3):314-6.
5. Kawarada Y, Mizumoto R. Surgical treatment of giant hemangioma of the liver. *Am J Surg.* 1984;148(2):287-91.
6. Sinanan MN, Marchioro T. Management of cavernous hemangioma of the liver. *Am J Surg.* 1989;157(5):519-22.
7. Popescu I, Ciurea S, Brasoveanu V, Hrehoret D, Boeti P, Georgescu S, et al. Liver hemangioma revisited: current surgical indications, technical aspects, results. *Hepatogastroenterology.* 2001;48(39):770-6.
8. Lerner SM, Hiatt JR, Salamandra J, Chen PW, Farmer DG, Ghobrial RM, et al. Giant cavernous liver hemangiomas: effect of operative approach on outcome. *Arch Surg.* 2004;139(8):818-21; discussion 821-3.
9. Moreno Egea A, Del Pozo Rodriguez M, Vicente Cantero M, Abellan Atenza J. Indications for surgery in the treatment of hepatic hemangioma. *Hepatogastroenterology.* 1996;43(8):422-6.
10. Pietrabissa A, Giulianotti P, Campatelli A, Di Candio G, Farina F, Signori S, et al. Management and follow-up of 78 giant haemangiomas of the liver. *Br J Surg.* 1996;83(7):915-8.