Ruptured Giant Hepatic Hemangioma: Report of A Case

Ali Jangjoo*, Mostafa Mehrabi Bahar, and Mohsen Aliakbarian

Department of Surgery, Surgical Oncology Research Center, Imam Reza Hospital, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

Received: 24 Dec. 2009; Received in revised form: 8 Apr. 2010; Accepted: 21 Jun. 2010

Abstract- Hemangiomas are the most common benign liver masses with a frequency of 0.4-7.3% at autopsy. They are usually discovered incidentally and a few require surgery. Spontaneous or traumatic ruptures are among indications of surgery for hemangiomas. We report a case of giant hepatic hemangioma presenting as hemoperitoneum following use of the slimming belt that underwent an emergent laparotomy. Abdominal exploration revealed that both right and left lobes of the liver were involved with giant hemangiomas. The liver was compressed by tightly packing laparotomy pads. After the operation, the patient was admitted to the surgical intensive care unit. Two days later, a second surgery was performed to remove the laparotomy pads. On the 6th day, the patient was discharged. One month later, to shrink the tumor, percutaneous transarterial embolization of the hepatic artery was performed.

Acta Medica Iranica 2010; 48(6): 419-422.

Key words: Hemangioma; liver; hemoperitaneum; rupture; percutaneous transarterial embolization

Introduction

Hemangiomas are the most common benign liver masses, with a frequency of 0.4-7.3% at autopsy (1). Most of hemangiomas are asymptomatic. These tumors are frequently depicted as an incidental finding during diagnostic procedures, mainly ultrasound (US), computed tomography (CT) scan and magnetic resonance (MR) imaging. In symptomatic patients, symptoms vary from mass effect to rapid growth. These tumors can be responsible for the complications, including portal hypertension, consuming coagulopathy, spontaneous or traumatic rupture, and intratumoral bleeding (2, 3). Thus, in some situations, surgical exploration is inventible.

We report a case of giant hemangioma in the liver which presented as shock and hemoperitoneum due to traumatic rupture following use of the slimming belt.

Case Report

A 29-year-old woman with a history of giant hepatic hemangioma was admitted to Imam Reza University Hospital with shock and mild pain in suprapubic area. The giant hemangioma had been diagnosed incidentally during abdominal ultrasonographgy about one and half years ago. Then, CT scan and 99 TC-labeled red cell studies had confirmed the diagnosis (Figure 1).

The suprapubic pain had been started suddenly about 12 hours before admission. The patient reported several attacks of faint. She also mentioned 9 days menstrual retard without any special drug history. The abdominal examination revealed mild tenderness in the upper abdomen and suprapubic area, as well as signs of peritoneal effusion. No history of recent trauma was mentioned except using an electrical slimming belt for 30 minutes exactly before the onset of the abdominal pain. Hematochemical tests showed anemia (Hb=8.0 g/dl), and ultrasonography confirmed peritoneal effusion.

Therefore, an emergent laparotomy was undertaken and approximately 2000cc of blood were evacuated from the abdominal cavity. Urgent exploration of the fallopian tubes and ovaries showed a trivial cyst in the left ovary without any signs of the ectopic pregnancy. In addition, multiple huge hemangiomas were observed in both lobes of a very large liver.

Active bleeding in segment 7 and 8 of the liver were also detected (equivalent to grade III according to liver injury grading system). Using 10 laparotomy pads, an emergent packing was done. Finally, the abdominal wall was closed with running sutures.

*** Corresponding Author:** Ali Jangjoo
Surgical Oncology Research Center, Imam Reza Hospital, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran
Tel: +98 511 8022677; Fax: +98 511 8525255, E-mail: jangjooa@mums.ac.ir, ali-jangjoo@hotmail.com

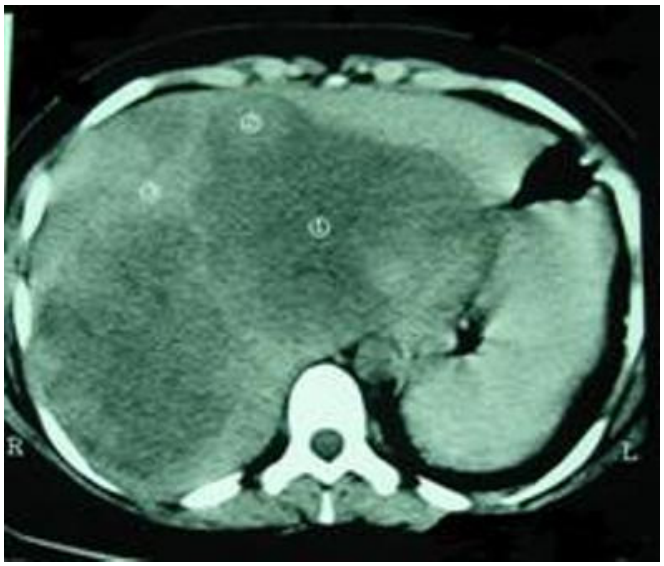

Figure 1. Computed Tomography (CT) scan of the giant hemangioma (one year before rupture)

After the operation, the patient was admitted to the surgical ICU for close observation.

Hemodynamic parameters, hematocrit and coagulation status were closely monitored. Using an intravesical catheter, intraabdominal pressure was measured at the intervals of 3 hours. The patient was observed for 48 hours. She was also given four units of packed red blood cells until hematocrit level was increased up to 10 mg/dl. On the third day, a second surgery was performed to remove the laparotomy pads. The next day she was stable and could tolerate an oral diet.

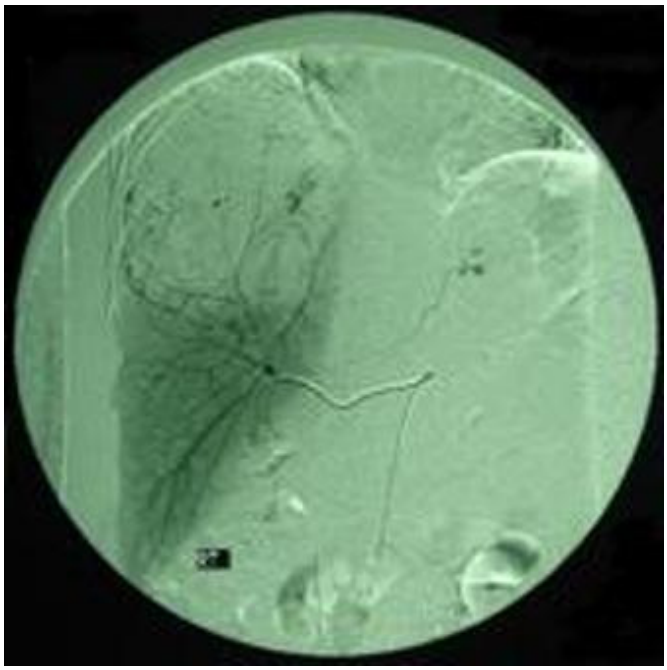

Figure 2. Pre-embolization angiographic view of the giant hemangioma

Figure 3. Post-embolization angiographic view of the giant hemangioma

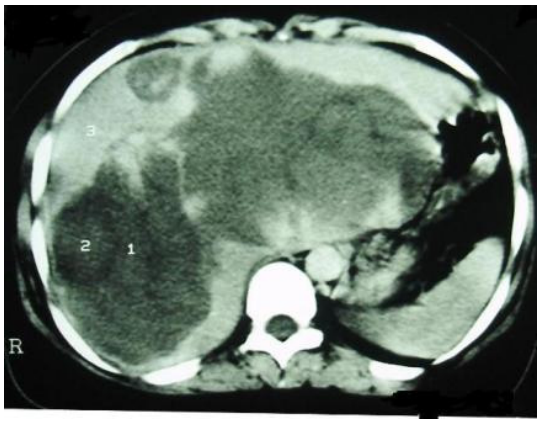

Figure 4. Computed Tomography (CT) scan of the giant hemangioma (3 months after embolization)

On the 6th day she was discharged. One month later pecutaneous transarterial embolization (PTE) for hepatic artery was performed (Figure 2, 3). Afterwards, she experienced a mild icterus and a trivial rise in the liver enzymes levels that resolved very soon. Three months later, the abdominal CT scan showed no significant shrinkage of the tumor whereas, the patient was symptom free (Figure 4).

Discussion

The majority of hemongiomas are small without any symptoms, but they may be enlarged and even rarely replaced with the liver. At present, surveillance is the most accepted policy for asymptomatic giant hemongiomas (4, 5). Rupture is one of the most tremendous complications of giant hemangiomas that rarely occurs (1-4%). (6) It can happen spontaneously or as a result of trauma, which may be minor and unnoticed. Its mortality rate is as high as 60-75 % (7). In this situation, because of massive hemorrhage, the patients are too sick to tolerate the anatomic hepatic resection. So, ligation of the hepatic artery or packing should be performed to control bleeding instantly.

When surgery is indicated, enucleation with temporary inflow occlusion (Pringle maneuver) is the treatment of choice. It is associated with fewer post operative complications and less blood loss when compared with anatomic hepatic resection (8).

However, other suggested approaches to ruptured hemangiomas are suturing, resection and transarterial embolization (TAE). Despite the relatively high rate of morbidity has been noted, the use of embolization results in improved overall patient outcomes (8).

Finally, perihepatic packing and delayed transarterial embolization is recommended in unstable patients with giant unresectable hemangiomas.

Acknowledgement

We would like to thank Ms. M. Hassanpour for editing the manuscript.

References

1. Brouwers MA, Peeters PM, De Jong KP, Haagsma EB, klompmaker IJ, Bijleveld CM, et al. Surgical treatment of giant hemangioma of the liver. Br J Surg 1997;84(3):314-6.
2. Suzuki H, Nimura Y, kamiya J, Kondo S, Nagino M, Kanai M, et al. Preoperative transcatheter arterial embolization for giant cavernous hemangioma of the liver with consumption coagulapathy. Am J Gastroenterol 1997;92(4):688-91.
3. Takahashi T, Katoh H, Dohke M, Okushiba S. A giant hepatic hemangioma with secondary portal hypertension: a case report of successful surgical treatment. Hepatogastroenterology 1997;44(16):1212-4.
4. Hanazaki K, Kajikawa S, Matsushita A, Monma T, koide N, Nimura Y, et al. Hepatic resection of giant cavernous hemangioma of the liver. J Clin Gastroenterol 1999;29(3):257-60.
5. 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.

6. Cappellani A, Zanghì A, Di Vita M, Zanghì G, Tomarchio G, Petrillo G. Spontaneous rupture of a giant hemangioma of the liver. Ann Ital Chir 2000;71(3):379-83.
7. Corigliano N, Mercantini P, Amodio PM, Balducci G, Caterino S, Ramacciato G, et al. Hemoperitoneum from a spontaneous rupture of a giant hemangioma of the liver: report of a case. Surg Today 2003;33(6):459-63.
8. Gedaly R, Pomposelli JJ, Pomfret EA, Lewis WD, Jenkins RL. Cavernous hemangioma of the liver: anatomic resection vs. enucleation. Arch Surg 1999;134(4):407-11.