

Emergent Surgical Treatment of Giant Liver Hemangioma Because of Intra-Tumor Bleeding

Hemangioma is a congenital vascular lesion. Its frequency is up to 20% of general population. Few of them keep growing and cause pain and bleeding. The majority of hemangiomas can be diagnosed by liver imaging studies. Surgical resection is the surgery of first choice for symptomatic hemangiomas. At the end, there will be a case report of emergent surgical treatment of intra-tumor bleeding.

Hemangiomas are the most common benign solid tumors that occur in the liver, with a frequency of 2-20%. They occur most frequently in young female patients (80%), in their fourth and fifth decades of life. Tumors > 4 cm in diameter are defined as giant liver hemangioma Adam *et al* [1]. They consist of large endothelial-lined vascular spaces and represent congenital vascular lesions that contain fibrous tissue and small blood vessels, that eventually grow.

Most hemangiomas are asymptomatic and thus must be followed up by means of periodic radiological examinations. Surgical treatment should be restricted to unusual cases. The most common symptom is pain, which often occurs with lesions larger than 5-6 cm. The main indication for resection is pain. Spontaneous rupture is rare, but its mortality is very high. Congestive heart failure can occur when arterio-venous or arterio-portal fistulas present within the tumor. Kasabach-Merritt syndrome, due to consumption of platelets and other factors of coagulation, also represent one of the rare indications for surgery. when surgery is indicated, it may be a formal lobectomy or lesion enucleation. Both radiation therapy of the tumor and ligation of hepatic artery are with controversial results, and now have been abandoned. Trans-Arterial Embolization(TAE) may be the solution for unresectable hemangiomas or for those involve both hepatic lobes.

The majority of hemangiomas can be diagnosed by liver imaging studies. On biphasic contrast CT scan, large hemangiomas show asymmetrical nodular peripheral enhancement that is isodense with large vessels, and exhibit progressive centripetal enhancement fill-in over time. On MRI, hemangiomas are hypointense in T1-weighted images and hyperintense in T2-weighted images. With gadolinium enhancement, hemangiomas show a pattern of peripheral nodular enhancement similar to that seen on contrast CT scan. Caution should be exercised in ordering liver biopsy if the suspected diagnosis is hemangioma because of the risk of bleeding from the biopsy site.

CASE REPORT

A 50-year old woman has been seen in the emergency room because of sudden exacerbation of her upper right-quadrant abdominal pain that followed by syncope. In the emergency room, she was pale and badly suffering. The vital signs were normal with blood pressure of 140/90 mm mercury, and pulse rate of 88/min. There was no sign of peritoneal irritation. A solid painful mass was palpated in the upper right-quadrant extending to nearside the umbilicus caudally, and disappearing beneath the right costal margin in cephalic. Laboratory studies including hepatic liver functions tests and blood tests were normal. Abdominal ultrasound examination revealed a huge hepatic lesion, arising from the IV segment of the left lobe. This

lesion was solid and heterogeneous, with central collection of liquid (*Figure 1*). There was no free liquid in the peritoneal cavity. So, an intra-tumor bleeding diagnosis was put.

Indeed, the patient has been informed of her hepatic hemangioma in 1991, when it only was 6x6cm in diameter. And since she was complaining of intermittent dull ache and fullness in the right upper abdomen. The pain became uncontrollable the last three years. The first visit to my medical cabinet was in 05/04/2010. The most recent 3- phasic CT scan (10/04/2010)) revealed a huge hepatic mass, measuring 17,2x 15,4x 9,9 cm, arising from the IVB segment of the left hepatic lobe, with asymmetrical nodular peripheral enhancement that is isodense with large vessels, and exhibit progressive centripetal enhancement fill-in over time (*Figure 2*). Therefore, the decision for lesion enucleation has been made. May during the pre-operative preparations, the pre- mentioned dramatical evolution has occurred in the patient situation; reflexing intra-tumor bleeding. So that, what had previously been programmed has been executed emergently in 25/04/2010(*Figure 3*). There were no intra or early postoperative complications. The histological examination confirmed that it was cavernous hemangioma.



Figure (1): Abdominal ultrasound in emergency revealed huge hemangioma with central bleeding.

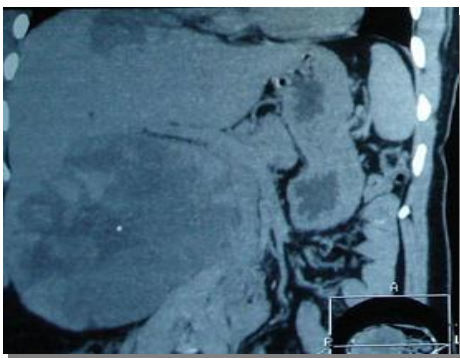


Figure 2-a



Figure 2-b

Figure (2): 3-phasic CT scan:

(figure 2-a): huge hepatic hemangioma arising from the IVB segment, with central fibrosis and central calcification.

(figure2-b): Asymmetrical nodular peripheral enhancement that is isodense with large vessels.



Figure 3-b



Figure 3-a

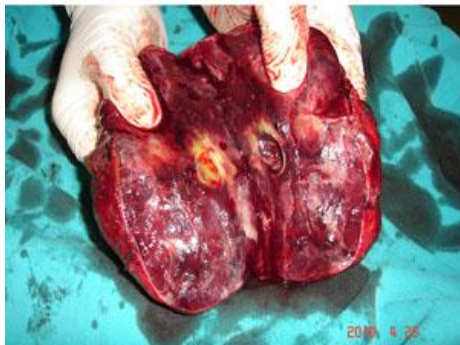


Figure (3-c)

Figure (3):
 Figure (3-a) Per- operative view of the hemangioma in-situ.
 Figure (3-b) Enucleation resection of the hepatic hemangioma.
 Figure (3-c) Central necrosis and the cavity of the intra hemangioma hematoma.

Reference

- 1- Adam YG, Huvos AG, Fortner JG. Giant hemangioma of the liver. Ann Surg 1970;172:239-45.

In another context, one could read:

- [Neural Conduction, Personal View vs. International View \(Innovated\)](#)
- [Neural Conduction, Action Pressure Waves \(Innovated\)](#)
- [Neural Conduction, Action Potentials \(Innovated\)](#)
- [Neural Conduction, Action Electrical Currents \(Innovated\)](#)
- [The Function of Action Potentials \(Innovated\)](#)
- [The Three Phases of Neural Conduction](#)
- [Neural Conduction in the Synapse \(Innovated\)](#)
- [Sensory Receptors](#)
- [Nodes of Ranvier, the Equalizers \(Innovated\)](#)
- [Nodes of Ranvier, the Functions \(Innovated\)](#)
- [Nodes of Ranvier, Function N1 \(Innovated\)](#)
- [Nodes of Ranvier, Function N2 \(Innovated\)](#)
- [Nodes of Ranvier, Function N3 \(Innovated\)](#)
- [The Philosophy of Pain, Pain Comes First! \(Innovated\)](#)
- [The Philosophy of Form \(Innovated\)](#)

- [Spinal Injury, pathology of Spinal Shock, Pathology of Hyperreflexia](#)
-  [Spinal Shock \(Innovated\)](#)
-  [The Clonus \(Innovated\)](#)
-  [Hyperactivity Hyperreflexia \(Innovated\)](#)
-  [Hyperreflexia, Extended Sector of Reflex](#)
-  [Hyperreflexia, Bilateral Responses](#)
-  [Hyperreflexia, Multiple Responses](#)
- [Nerve Conduction Study, Wrong Hypothesis is the Origin of Misinterpretation \(Innovated\)](#)
-  [Wallerian Degeneration \(Innovated\)](#)
-  [Neural Regeneration \(Innovated\)](#)
- [Wallerian Degeneration Attacks Motor Axons, While Avoids Sensory Axons](#)
-  [Barr Body, the Whole Story \(Innovated\)](#)
-  [Boy or Girl, Mother Decides!](#)
-  [Adam's Rib and Adam's Apple, Two Faces of one Sin](#)
-  [The Black Hole is a \(the\) Falling Star?](#)

25/4/2010