

Giant hepatic cavernous hemangioma: An uncommon presentation and surgical management

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Hemangiomas are the most common benign tumors of the liver. They are usually asymptomatic and require no specific treatment as they are mainly diagnosed incidentally. However, some hemangiomas may present with different symptoms depending on size and location. Many surgical options

are used to treat symptomatic hemangiomas. We report a case of giant hepatic cavernous hemangioma (14 cm) in a 33-year-old woman, which presented with pruritus and jaundice. She underwent Mesohepatectomy (resection of segments 4, 5, and 8) which is uncommon complicated surgical technique to treat benign hepatic tumors.

Key Words: Hemangioma; Pruritus; Mesohepatectomy; Laparoscopic; Robotic surgery

INTRODUCTION

Hemangioma is the most common benign hepatic tumor [1], affecting 3-20% of general population with a higher incidence in middle-aged women [2]. Most hepatic hemangiomas (HH) are asymptomatic, usually diagnosed incidentally while imaging for other unrelated reasons, therefore they usually require no treatment but observation. However, giant HH (<10 cm) can develop nonspecific symptoms, varying from abdominal discomfort to life-threatening complications such as rupture [1,2]. Indications for surgery are complicated HH, progressive symptoms, and rapid growth in size [1,3]. Surgical options include hepatic resection and enucleation by open, laparoscopic, or robotic surgery [4]. As hepatic resection (typical and atypical hepatectomy) is associated with severe complications and removes large amount of functioning parenchyma which may not be involved with the tumor, Mesohepatectomy (resection of segments 4, 5, and 8) presents a great alternative with lower parenchymal loss and shorter postoperative recovery [5]. Mesohepatectomy was first described in 1972 by McBride and Wallace to treat centrally located hepatic malignancies [6]. Herein, we report a case of benign hepatic neoplasm (atypical giant cavernous hemangioma) which presented with pruritus as a rare symptom and treated successfully with Mesohepatectomy.

CASE REPORT

A 33-year-old female, previously healthy, presented with a complaint of generalized pruritus for the last two months. She was treated with anti-histamine agents by a dermatologist but did not show any improvement. It was also associated with jaundice and dark-colored urine for the last two weeks. There was no history of rash, fever, abdominal pain, vomiting, or using oral contraceptives. Clinical examination was normal. Blood investigations revealed elevated alkaline phosphatase (ALP: 1139 U/L) and elevated bilirubin value (total: 6.3 mg/dL, direct: 4.1 mg/dL). Abdominal ultrasound (US) showed a large heterogeneous hyperechoic mass lesion measuring (12 × 13.5 cm) in the middle of the liver above its hilum, without lymphadenopathies. MRI showed a large well-defined isointense lesion with hypointense center on T1-weighted images, and iso- to hyperintense with hyperintense center on T2-weighted images, occupying segment 4 and the hilum of the liver with slightly lobular margins measuring (10 × 11 × 14 cm). The mass lesion is pushing the biliary tree and causing intrahepatic bile duct dilation, which may be consistent with atypical giant hemangioma or focal nodular hyperplasia (FNH) (Figure 1).

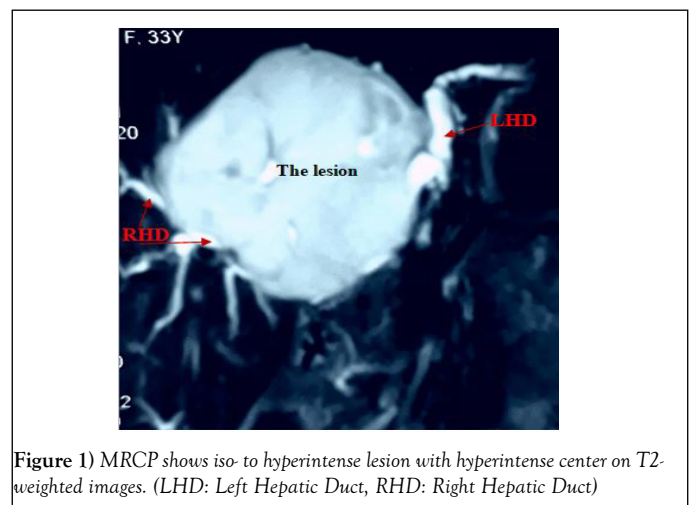


Figure 1) MRCP shows iso- to hyperintense lesion with hyperintense center on T2-weighted images. (LHD: Left Hepatic Duct, RHD: Right Hepatic Duct)

With previous findings, the patient was posted for surgery. Intraoperatively, a giant mass was seen arising from segments 4A, 4B, and medial aspects of segments 5 and 8. Mesohepatectomy (resection of segments 4A, 4B, and medial aspects of 5 and 8) was made, after identifying and dissecting common bile duct, left and right hepatic ducts, branches of hepatic artery, portal vein, and suprahepatic veins (Figure 2 and Figure 3). Concurrent cholecystectomy was also performed.

Post-operative period was uneventful and the patient was discharged on the seventh Post-operative day. Anatomopathological and histological findings confirmed the diagnosis of a 14 cm of atypical cavernous hemangioma in its largest axis (Figure 4).

DISCUSSION

Hepatic hemangiomas (HH) are the most common benign hepatic tumors and the second most common tumors of the liver after metastases [1,4]. They are usually asymptomatic and require no treatment as they are diagnosed incidentally. However, giant HH can develop symptoms and complications that require prompt management [1]. Diagnostic investigations include: ultrasound (US), computed tomography (CT), magnetic resonance imaging (MRI), angiography, and nuclear scans. These are used to differentiate HH

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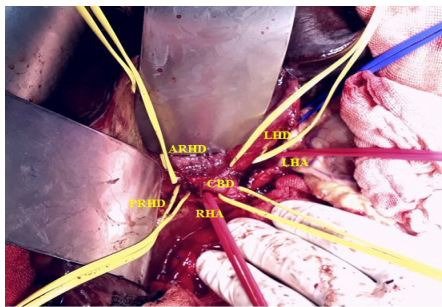


Figure 2) Intraoperative view shows the dissected liver hilum (LHA: Left Hepatic Artery, LHD: Left Hepatic Duct, CBD: Common Bile Duct, RHA Right Hepatic Artery, ARHD: Anterior Right Hepatic Duct, PRHD: Posterior Right Hepatic Duct).

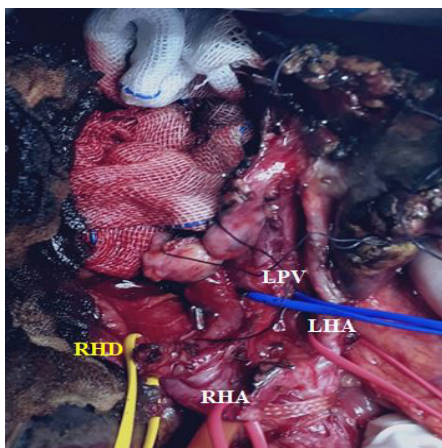


Figure 3) Intraoperative view after mesohepatectomy (LPV: Left Portal Vein, LHA: Left Hepatic Artery, RHA: Right Hepatic Artery, RHD: Right Hepatic Duct).

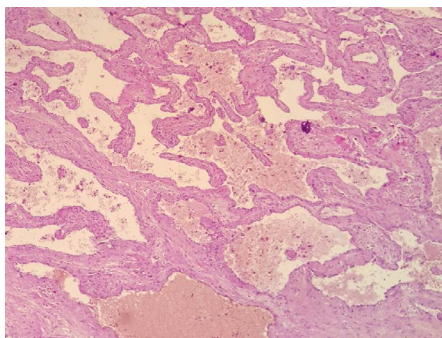


Figure 4) Intermediate magnification micrograph of hepatic cavernous hemangioma shows dilated vascular spaces lined by a single layer of endothelial cells, and filled with blood.

from other benign or malignant lesions [1]. Treatment options include surgery (the most common), arterial embolization, radiofrequency ablation, and rarely, liver transplantation [1]. Patients with giant HH are treated surgically when indications exist with two main surgical procedures: hepatic resection (typical/atypical) and enucleation. The choice between these two procedures varies greatly between institutions depending on different factors [7]. Although enucleation is preferred by some authors, as it is safe and has fewer complications compared to extensive hepatic resection, there are conditions where hepatic resection remains the treatment of choice, like deeply located HH, or occupying the entire lobe [8]. Moreover, enucleation of centrally located HH is more likely associated with high rates of blood loss and longer intraoperative time [7]. At first, we assumed that right lobectomy (resection of all segments lateral to the umbilical fissure 4, 5, 6, 7 and 8) would be the best option. Nevertheless, since the tumor is only invading segments 4A, 4B, and medial aspects of 5 and 8, we decided to do Mesohepatectomy. It is a new technically complicated procedure that involves resection of segments (4, 5, and 8) supplied by both left and right portal pedicles, preserving the right posterior and left lateral sectors and caudate lobe, and presenting an alternative to extended left/right hepatic resection [5,9]. Indications for Mesohepatectomy include hilar malignancies such as cholangiocarcinoma and gallbladder cancer to obtain free margins without resecting extra functioning liver tissue [9].

CONCLUSION

In this report, our attention is to focus on the pruritus as a rare presentation of symptomatic HH and the use of Mesohepatectomy, despite of its technical complexity, as an alternative solution to treat focal central hepatic benign lesions, not only malignant ones.

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