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Case Report

Successful Management of Hepatic Hemangioma Found Ruptured during Cesarean Section Delivery: A Case Report

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Received: January 28, 2021; **Published:** February 10, 2021

Abstract

Hepatic Hemangiomas are potentially lethal lesions when found in pregnant females. A twenty three years old female patient was found to have hemoperitoenum during cesarean section. After delivery of baby, abdomen was explored through midline extension and patient was managed by packing. Patient was subjected to unsuccessful embolisation of left hepatic artery. We are reporting successful management of this case by reexploration and left lateral segmentectomy.

Keywords: *Ruptured Hemangioma; Cesarean Section; Pregnancy*

Introduction

Hepatic hemangiomas (HHs) are the most common benign tumor of liver with incidence up to 7.3% on autopsy findings [1]. HHs are commonly diagnosed on routine radiological evaluation for other abdominal pathologies. Most HHs are small in size and asymptomatic. Even HHs more than 5 cm in size, also known as giant hemangiomas, remain asymptomatic in most cases. However, HHs may complicate in the form of rupture, bleeding, thrombosis, disseminated intravascular coagulation, and consumptive coagulopathy (Kasabach-Merritt Syndrome) [2]. Rupture of HH during pregnancy may precipitate hemorrhagic shock and, if not intervened in time, may turned out to be fatal.

Here, we present a case of successful left lateral segmentectomy for a female found to have ruptured left lobe hemangioma during cesarean section.

Case Report

Twenty three years old female patient was referred from a surgical unit in government general hospital for further management of ruptured hemangioma during cesarean section which was managed by placing mops in peritoneal cavity. On history taking, patient developed hemoperitoneum while cesarean section. Baby was delivered and surgeons were called perioperatively. Abdomen explored

through vertical midline incision and patient was found to ruptured exophytic hemangioma from left lobe of liver. Abdomen was closed with packing around liver and patient was transferred to tertiary care center. Here, patient was subjected to computed tomography scan which revealed moderate fluid collection in peritoneal cavity with air fluid levels suggestive of hydro-pneumoperitoneum. Large heterogeneous area was noted consistent postoperative packing. In addition, a large fairly defined 78 x 73 x 87 mm sized irregular lesion noted in the segment II and segment III of left lobe of liver. Contrast spurt was present in the inferior most part of lesion. Findings on computed tomography scan were suggestive of ruptured lobulated lesion probably hemangioma. In addition to these findings, patient was having bulky uterus, multiple small hemangiomas in both lobes of liver with largest size of lesion being 20 x 15 mm and bilateral pleural effusion with underlying collapse of lung. By this time, patient has been transfused ten units of packed red blood cells and four units of fresh frozen plasma. Patient was referred to interventional radiologist for probable angioembolisation. However, angioembolisation was not possible and patient was refereed to specialist liver transplant unit for further management. Here, patient was admitted in intensive care unit and emergency exploration was planned. Patient's laboratory investigations were: hemoglobin - 10.7 gm/dl, white blood cell count - 2410/cmm, platelet counts - 85000, Creatinine - 0.37 mg/dl, Urea - 35 mg/dl, Serum sodium - 143 mEq/litre, Serum potassium - 3.00 mEq/litre, Serum bilirubin - 2.8 mg/dl, direct bilirubin - 1.4, indirect bilirubin - 1.4, Alanine aminotransferase - 80 U/litre, aspartate aminotransferase - 65 U/litre, alkaline phosphatase - 92 U/litre, activated partial thromboplastin time - 26.8 seconds, international normalized ration for prothrombin time - 0.92. After proper counseling about risks of surgery, patient was explored through same midline incision under antibiotic coverage of piperacillin tazobactam. Blood aspirated out and diagnosis of ruptured hemangioma was confirmed. Pringle maneuver applied and left hepatic artery dissected and ligated. Three packs were removed and then formal left lateral segmentectomy was carried out. Patient required three units of packed red cells. Patient was kept in intensive care unit for twenty four hours for monitoring. Patient was given intravenous albumin daily for three days. She was discharged on postoperative tenth day. Histopathological report confirmed the diagnosis of cavernous hemangioma. At the follow up of two months, patient is doing well and is breast feeding her child.

Discussion

HHs are congenital vascular malformations, composed of masses of blood vessels and blood filled cavities, surrounded by walls lined by single vascular endothelium. Size of hemangioma can vary from few mm to 20 cm [3]. HH as large as 40 cm has been reported [4]. They

Figure 1: *CT scan image of hemangioma.*

Figure 2: *Operative specimen.*

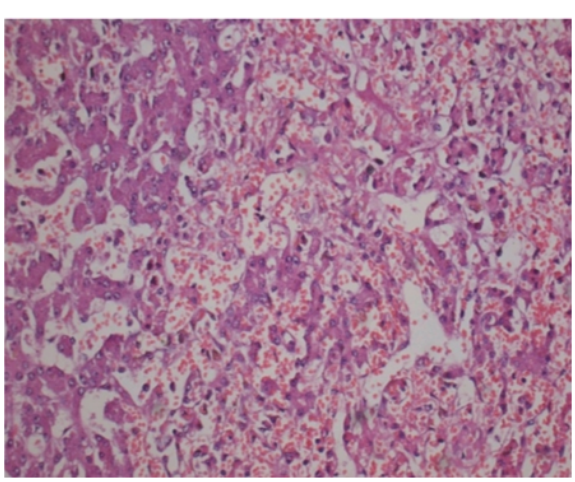

Figure 3: *Histopathology image showing blood vessels lined by endothelial cells and filled with red blood cells with normal hepatocytes in between.*

are more commonly found in adults, more commonly females, in their third or fourth decade of life. The etiopathogenesis of hemangioma is not completely understood. Even natural history of liver hemangioma's has not been defined. Although Hemangiomas remain asymp-

tomatic, they can become symptomatic with symptoms and signs being intermittent fever, jaundice, Budd-Chiari syndrome, disseminated intravascular coagulation, anemia, thrombocytopenia, abdominal pain, or abdominal fullness.

Although risk of rupture of hemangioma has not been quantified, there are reports of spontaneous rupture of hemangioma in general population [5,6]. Even though there are reports of spontaneous rupture of hemangioma, prophylactic surgery is not recommended even for mega hemangioma. The only indication for surgery is when malignancy cannot be rule out objectively [7]. Hemangiomas are known to increase in size under the influence of estrogens in pregnant females and females taking oral contraceptive pills [8]. In addition, risk of spontaneous rupture increases in pregnant females due to increased intraabdominal pressure due to enlarged uterus and hyper dynamic circulation. Thus, elective cesarean section has been advised in all pregnant females with HHs at term to avoid potentially lethal complication of rupture [9,10]. There is a report of rupture hemangioma during cesarean section which was diagnosed by postoperative angiography and managed by embolization of left hepatic artery [11]. There is a another successful management of rupture of HH, during pregnancy, by means of packing only [12]. In our case, packing and embolisation were not successful. As left hepatic artery was compromised due to attempt of embolisation, we performed left lateral segmentectomy. Other non obstetric causes of intraperitoneal hemorrhage during pregnancy include rupture of tubo-ovarian vessels, rupture of varicose veins on uterine surface, rupture of splenic vein, and rupture of celioaneurysm [13].

Conclusion

To conclude, pregnant females with HH require special attention and elective cesarean section should be performed at term in such group of patients.

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Volume 8 Issue 3 March 2021