

Incarcerated Umbilical Hernia in a Cirrhotic With Caput Medusa- Role of Preoperative Tips, a Case Report



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Abstract

A 42 year old male known to have hepatitis B related chronic liver disease decompensate with refractory ascites, hydrothorax presented with an incarcerated umbilical hernia containing omentum and an uncomplicated right inguinal hernia. Physical examination was remarkable for the presence of caput medusae and multiple collaterals. Computed tomography showed against reanalyzed paraumbilical vein which served as an afferent pathway to a tuft of dilated tortuous periumbilical collaterals which drained into the common femoral vein via the left sided inferior epigastric veins. He underwent Trans jugular intrahepatic porto-systemic shunt. Two weeks later, the collaterals had reduced significantly in size and he underwent repair of both hernias electively without any blood transfusion. The patient remains well on follow up with the abdominal wall collaterals having disappeared and he has been listed for liver transplantation.

Introduction

Hernias of the abdominal wall that arise from 3 cm above to 3 cm below the umbilicus are defined as umbilical hernia as per the European Hernia Society Classification. [1] 20% of the patients of cirrhosis complicated with ascites have umbilical hernia [2,3]. As the intra abdominal pressure is quite high in these patients there is always a tendency of these hernias to enlarge rapidly and complicate [4]. Umbilical hernia occur more frequently in male cirrhotics in contrast to the general population where female gender and obesity are the major risk factors [1,4]. Treatment of cirrhotics with umbilical hernia has been controversial [5-8]. These patients were treated expectantly in the past due to an increased rate of complications and recurrence [5,6]. Expectant management could lead to complications like leaking of ascitic fluid, peritonitis, evisceration, incarceration of the content of hernial sac [7]. Many recent studies have shown that the results of surgical repair depend on the grade of ascites and liver function [9-12]. It has been shown that elective repair of umbilical hernia is safe and effective in patients whom ascites has been controlled [12]. Timing, indication and surgical aspects of hernia repair remain controversial in these subjects [6-10]. Use of a mesh in laparoscopic surgery is still a major area of discussion [13-15].

Case

A 42 year old male known to have hepatitis B related chronic liver disease (CTP score-11/15 MELD score 19 MELD Na-19), decompensated with refractory ascites, hydrothorax presented with an incarcerated umbilical hernia containing omentum and an uncomplicated right inguinal hernia. Physical examination was remarkable for the presence of caput medusae and multiple collaterals (Figure 1). Computed tomography and trans-hepatic venogram showed a giant recanalised paraumbilical vein which served as an afferent pathway to a tuft of dilated tortuous periumbilical collaterals which drained into the common femoral vein via the left sided inferior epigastric veins (Figures 2A-2C). Surgeons initially refused to offer him hernia repair in view of multiple large collaterals. He underwent transjugular intrahepatic porto-systemic shunt (TIPS) along with coil embolization of the collateral. Two weeks later, the collaterals had reduced significantly in size and he underwent repair of both hernias electively without any blood transfusion (Figures 3A & 3B). Peri-operative course was uneventful without any worsening of jaundice, ascites or coagulopathy and was discharged on post operative day 8. He remains well on follow up of more than one year with the abdominal wall collaterals

having disappeared and no ascites. He has been listed for liver transplantation.



Figure 1: Caput medusae and multiple collaterals.



Figure 2A: Computed tomography showed a giant recanalised paraumbilical vein which served as an afferent pathway.

Figure 2B: Tuft of dilated tortuous periumbilical collaterals which drained into the common femoral vein via the left sided inferior epigastric veins



Figure 3A: Reduced collaterals

Figure 3B: Post operative image of the reduced umbilical hernia.

Discussion

The treatment of umbilical hernia in cirrhotics is quite challenging. Control of ascites forms the mainstay of treatment as this leads to reduced hernia recurrence and postoperative complications like wound dehiscence, infection, evisceration and peritonitis. Use of diuretics, paracentesis at regular intervals and transjugular intrahepatic port systemic shunt (TIPS) are often necessary to control ascites. TIPS done preoperatively in these patients may allow better control of ascites and in turn make them more amenable for herniorraphy. It has been shown that there should be a low threshold for placement of TIPS in these patients to reduce the chance of increased intraoperative bleed, preoperative worsening of liver functions, recurrence of ascites and hence the hernia and allow prolonged symptom free post operative period [16]. Our patient underwent TIPS pre

operatively and this was followed by a herniorraphy on day 12 Post TIPS with uneventful post operative recovery and good long term follow up. The use of measures like TIPS for portal venous decompression preoperatively has been supported by the fact that uncontrolled ascites increase the risk of postoperative complications and recurrence [17].

TIPS have been reported to be the most preferred method [17-20]. Caput medusae represent paraumbilical vein port systemic collateral vessels draining into body wall systemic veins. It's always better to decompress the caput medusae prior to the surgery to minimize the risk of intra and preoperative bleeding and post operative leak consequent to the reduced pressures.

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