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Case Report

Flood syndrome: a leaky umbilical hernia

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ABSTRACT

Flood syndrome is a rare but serious complication of advanced liver disease, defined by spontaneous rupture of an umbilical hernia with sudden leakage of ascitic fluid. Chronic ascites increases intra-abdominal pressure, weakening the abdominal wall and predisposing to hernia formation. Skin ulceration or necrosis over the hernia sac may indicate impending rupture. We present a case of a 53-year-old man with decompensated chronic liver disease and ascites who presented with abdominal distension, umbilical swelling, and continuous ascitic fluid leakage. He had discontinued medical therapy two months earlier. Examination revealed a distended abdomen with a necrotic umbilical hernia and significant fluid loss. Following prompt fluid resuscitation, emergency surgical repair with excision of necrotic tissue was performed. Postoperatively, ascites management was reinstated, and recovery was uneventful. Flood syndrome carries high morbidity and mortality. Early recognition, hemodynamic stabilization, infection control, and effective ascites management are crucial for successful surgical repair and improved outcomes.

Keyword: Umbilical hernia, Flood syndrome, Chronic liver disease, Ascites, Cirrhosis

INTRODUCTION

An umbilical hernia represents a protrusion of intra-abdominal contents through a weakness or defect in the ventral abdominal fascia at or adjacent to the umbilicus.[1,2] Chronic ascites leads to persistently elevated intra-abdominal pressure, which progressively attenuates and weakens the abdominal wall, predisposing to the development of an umbilical hernia. In patients with portal hypertension, recanalization of the umbilical vein may further contribute to the formation of a supraumbilical fascial defect.[3]

Flood syndrome, first described by Frank B. Flood in 1961, is an uncommon but serious complication seen in individuals with long-standing ascites and advanced liver disease. The presence of overlying skin ulceration or necrosis over the hernia sac should be considered an ominous sign, indicating an increased risk of spontaneous rupture.

CASE REPORT

A 53 year old man came to the trauma centre with complaints of abdominal distension for 6 months, umbilical swelling for 4 days and leak from umbilicus for 2 days. Patient is a chronic alcoholic since 12 years and was diagnosed with decompensated chronic liver disease with ascites 6 months back for which he was hospitalised and managed conservatively and discharged. The patient was on treatment for his ascites, but stopped around 2 months back without any consultation. The patient developed an umbilical swelling 4 days back and he noticed a leak from the same 2 days later. He went to the nearby hospital but only temporary management was done with superficial dressing after which the patient presented to us. On examination the abdomen was distended with an umbilical hernia which had patches of necrosis and gangrene on the skin. Primary resuscitation with fluids was done because the patient had lost around 5 litres of ascitic fluid and was continuing to lose ascitic fluid. The patient

was then taken up for emergency surgery to prevent any further loss of ascitic fluid and avoid the patient going into hypovolemic shock. The redundant sac and necrotic skin was excised and closed with Vicryl 1-0 RB and Ethilon 3-0 RC respectively. Ascites management was restarted after medical consultation and the patient was discharged successfully. On subsequent visits the patient was compliant with his liver disease treatment and his wound healed well.

Figure 1: Preoperative photo of umbilical hernia with gangrenous changes in skin and leakage of ascitic fluid.

Figure 2: Post operative photo of umbilical hernia repair with skin excoriation.

DISCUSSION

Flood Syndrome is the rushing of fluid due to spontaneous rupture of an umbilical hernia. It is a rare complication of long-standing ascites and end-stage liver disease. Around 20% patients having cirrhosis complicated with ascites may develop umbilical hernia.[4]

Umbilicus is a weak portion of the abdominal wall as it interrupts linea alba. The rarity of this condition has made it difficult to develop a standard treatment protocol.

Treatment of flood syndrome is predominantly medical and sometimes surgical after primary resuscitation. Primary resuscitation involves fluid resuscitation and antibiotics, wound care like using sterile occlusive dressing, or using ostomy pouches.[1,3,5] Medical management includes nutritional optimization, antibiotics, avoiding hepatotoxic medication along with ascitic management.[6] Management of ascites include alcohol abstinence, sodium restriction, diuretics, electrolyte and renal function monitoring and large volume paracentesis with albumin infusion.[7,8] After management of ascites and consideration of methods to reduce ascitic pressure, hernia defect repair can be done using fibrin glue or umbilical herniorrhaphy without mesh placement [either elective after medical optimization or emergency).[1,9,10]

Which is better, medical or surgical management, is up for debate because both methods have a high morbidity and mortality rate. While medical management has a mortality rate of 60%, surgical management has a morbidity of 71% and mortality of 20-60% post operatively.[3,11,12] Different complications of flood syndrome include bacterial peritonitis, bowel incarceration or evisceration.[13,14] Medical optimisation is therefore ideally required to prevent wound infection or dehiscence, ascitic fluid leakage, liver failure, bleeding, ileus, encephalopathy and hernia recurrence.[1,15]

CONCLUSION

Flood syndrome is a rare but fatal complication of cirrhosis complicated with ascites. Adequate management of ascites is imperative for success of surgical repair. Umbilical herniorrhaphy is preferred over meshplasty to prevent mesh infection. Timely control of ascites and repair of hernia are important to prevent the fatal complications of flood syndrome.

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