

Cholelithiasis with perforated gall bladder presenting as chylous ascites- A case report

Sharma BK, Pareek P, Sharma A, Mangal M

ABSTRACT

Chylous ascites, a rare entity, is often associated with a poor outcome since it is usually secondary to neoplasms. Easily diagnosed by the appearance of ascitic fluid aspirate, or color of the drain fluid; definitive diagnosis can only be made by elevated triglyceride levels of the fluid. It occurs very rarely in gall bladder malignancy. Diagnosis presents as much a challenge as the management. We present a case of a 60 year old woman with diabetes, presented with pain right hypochondrium off and on since 6 months. Ultrasonography revealed cholelithiasis. She underwent cholecystectomy. Abdominal cavity contained purulent fluid, chyle, ascertained by biochemical analysis. Histopathology of gall bladder revealed adenocarcinoma. Post-operatively, fat-free diet, diuretics, systemic antibiotics, continuous drainage and chemotherapy were given. Management of such situation varies and a multi-pronged approach is advised.

Keywords: cholelithiasis, chylous ascites, adenocarcinoma

INTRODUCTION

Chylous ascites is the extravasation of milky chyle into the peritoneal cavity, and is rarely encountered. It develops through three principal mechanisms- obstruction of major lymphatic channels at base of mesentery or cysterna chyli, direct leak through a lymphoperitoneal fistula, and exudation through walls of retroperitoneal lymphatics without a visible fistula or thoracic duct obstruction. Exudate with chyle like appearance may be seen in chronic pleural or abdominal conditions such as tuberculosis, rheumatoid arthritis, nephritic syndrome or malignant processes, sometimes called 'pseudochyle' or 'chyliform'. Both in chyle and pseudochyle, the turbidity is due to high lipid content.¹

Patients typically complain of abdominal fullness or discomfort as well as occasional nausea and vomiting.² Confirmed by high levels of triglycerides in ascitic fluid; it is commonly associated with malignancy and iatrogenic injury to cysterna chyli. Chylous fluid coming from the abdominal drain may be a sign in post-operative patients.³ Incidental discovery of chylous ascites is unrecorded and warrants a thorough search for underlying cause. We present a case of cholelithiasis where chylous ascites was discovered at surgery and

underlying pathology was eventually found to be carcinoma gall bladder.

CASE REPORT

A 60 yr old woman presented with complaint of pain right hypochondrium on and off since 6 months. Pain was occasionally severe and radiated to the back. She also had fever since last 5 days. She was a known case of type II diabetes mellitus under regular oral hypoglycaemics. She underwent tubectomy 26 year ago. Tenderness with guarding was present in the right hypochondrium. Bowel sounds were present.

Sonogram revealed multiple calculi in gall bladder; largest being 12 X 16 mm. Pericholecystic free fluid was seen. Wall thickness was 4 mm. Hence laparoscopic cholecystectomy was planned. Accordingly pre-operative investigations were performed. Total counts were slightly elevated- 11,530. Hb-10.6, neutropils-73.7%. SGOT and SGPT were 62 and 69 respectively. serum alk phos was elevated to 603.9.

During surgery, about 2 liters of purulent looking fluid was present in the abdomen. Gall bladder was edematous and adherent all around; and was perforated at the fundus with firmly adherent omentum. Situation warranted an open procedure,

and therefore, a midline incision was given and thorough abdominal toileting was done. Cholecystectomy was performed. A drain was put in right sub-hepatic space and another in the pelvis.

Post-operatively, she was put on IV ceftazidime, amikacin, metronidazole, and also on sliding scale insulin. The content of drains was minimal on 1st postoperative day- 5 ml. in upper and 20 ml in the lower. But on 3rd day, the drainage output was 400 ml from the lower one, with a change of texture and colour from earlier sero-sanguinous to curdy. The microbiology of the ascitic fluid taken at surgery came sterile. By 4th day, she developed mild fever (99.4 F) and drain content became chiefly milky (upper-20 cc, lower-200 cc). TLC was 13,620, Hb- 8.7 and neutrophils-77%; serum K⁺-3 mmol/l and she was given injectible potassium supplementation. Subsequently, the amount of drainage fluid increased to 1400 ml on day 6, 2200 ml on day 7, and 3100 ml on day 8. Her serum LDH was 427 and hypoproteinemia was evident clinically, confirmed by total proteins of 5.4, and serum albumin of 2.7. Accordingly, protein supplementation was given.

Histopathology of gall bladder reported- moderately differentiated adenocarcinoma with cholelithiasis. Cause of this ever increasing chylous fluid was hence established and malignancy confirmed; she underwent a CECT thorax and abdomen. Up to this time, the discharge was being treated more as 'purulent' and less as 'chyle'. Now attention turned towards it being chyle and triglycerides of the drain fluid were estimated which turned to be high (609.3 mg%) confirming it to be chyle. CT showed multiple space occupying lesions in liver and extensive pulmonary metastases, which was not reported in the USG and neither were these lung metastases visible on chest x-ray.

She was treated with one cycle chemotherapy- 5-FU 750 mg for 5 days, fat free diet and diuretics. Gradually, the discharge reduced and by 24th day, upper drain was removed. She gradually became asymptomatic and was discharged with future chemotherapy follow ups.

DISCUSSION

We missed the diagnosis of carcinoma gall bladder initially due to inability to visualize liver metastases and ascites at sonography. Clinically there was nothing to suggest malignancy. At surgery, presence of milky fluid in peritoneal cavity was thought to be a sequelae of cholelithiasis. Further puzzling was the ever increasing amount of drainage fluid in the post operative period. However, the histology report confirmed the diagnosis of adenocarcinoma, and CECT abdomen-thorax revealed widespread metastases. The ascitic fluid analysis showing high triglyceride levels confirmed this as chylous ascites. Although CT scan and USG will indicate fluid collections in the abdomen, lymphatic mapping may be used to identify location of the leak with varying degrees of success.^{4,5} Post surgical chylous ascites usually resolves with supportive therapy. Different studies revealed the response rate of 34-71% to conservative management^{3,6} Pabst et al., reported that therapeutic paracentesis was not successful when used alone but when combined with a medium chain triglyceride diet or TPN, resulted in resolution of chyloperitoneum in 57% patients.⁷ The use of TPN alone may at times provide spontaneous resolution in as many as 50% cases.⁸ Somatostatin use can be considered in patients not responding to tapping and fat free diet.² When conservative management fails, treatment options include peritoneovenous shunts, image guided sclerotherapy or surgical intervention with lymphatic duct ligation.⁹ Re-surgery is indicated when site of leak is evident. As in our case, the underlying cause was malignancy, attention shifted to palliation, controlling ascites and chemotherapy. The patient was given a fat free diet. Frequent tapping is indicated in gross ascites. In this case, presence of abdominal drains satisfied this requirement. Diuretics were given as in a standard approach to treat any ascites. In addition, chemotherapy is to be undertaken to deal with the underlying malignancy.

AUTHOR NOTE

Brijesh Sharma, Professor (**Corresponding Author**);

email: brijeshsharma1952@gmail.com

Prashant Pareek, Resident

Arpit Sharma, Resident

Mahesh Mangal, Professor

Dept. of Surgery, Mahatma Gandhi Medical College
and Hospital, Jaipur

REFERENCES

1. Shah SS, Ahmed K, Smith R, Mallina R, Akhbari P, Khan MS. Chylous ascites following radical nephrectomy: a case report. *Journal of Medical Case Reports*. 2008; 2(3): 1186.
2. Jensen EH, Weiss CA. Management of chylous ascites after laparoscopic cholecystectomy using minimally invasive techniques: a case report and literature review. *The American Surgeon*. 2006; 72(1):60-63.
3. Tulunay G, Ureyen I, Turan T, Karalok A, et al. Chylous ascites: analysis of 24 patients. *Gynaecologic Oncology*. 2012; 127(1):191-7.
4. Pui MH, Yueh TC. Lymphoscintigraphy in chyluria, chyloperitoneum and chylothorax. *Journal of Nuclear Medicine*. 1998; 39(7):1292-6.
5. Archimandritis AJ, Zonios DI, Karadima D. et al. Gross chylous ascites in cirrhosis with massive portal vein thrombosis: diagnostic value of lymphoscintigraphy. A case report and review of the literature. *Eur J Gastroenterol Hepatol*. 2003; 15(1):81-5.
6. Browse NL, Wilson NM, Russo F, al-Hassan H, Allen DR. Aetiology and treatment of chylous ascites. *British Journal of Surgery*. 1992; 79(11):1145-50.
7. Pabst TS, McIntyre KE Jr., Schilling JD, Hunter GC, Bernard VM. Management of chyloperitoneum after abdominal aortic surgery. *Am J Surg*. 1993; 166(2):194-9.
8. Combe J, Buniet JM, Douge C, Bernard Y, Camelot G. Chylothorax and chylous ascites following surgery of an inflammatory aortic aneurysm. Case report with review of the literature. *J Mal Vasc*. 1992; 17(2):151-6.
9. Kaas R, Rustman LD, Zoetmulder FA. Chylous ascites after oncological abdominal surgery: incidence and treatment. *Eur J Surg Oncol*. 2001; 27(2):187-9.