



SUCCESSFUL CONSERVATIVE MANAGEMENT OF CHYLOUS ASCITES POST ROBOTIC RETROPERITONEAL LYMPHADENECTOMY (STAGE 1 B OVARIAN MALIGNANCY)- A CASE REPORT

Gynecology

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KEYWORDS

BACKGROUND:

Chylous ascites is a known complication of extensive pelvic and para aortic lymphadenectomy. With great advances in minimally invasive procedures, the incidence of such complications is on the rise due to use of electrosurgical / ultrasonic shearing when compared to ligation done in laparotomies. It is essential to understand the etiology and physiology behind formation and management of chylous ascites. We report a case of successfully managed chylous ascites (post robotic retroperitoneal lymphadenectomy) with MCT (coconut oil based) and high protein diet, with addition of Lasilactone (spironolactone 50 mg + frusemide 20 mg) and octreotide. The resolution time was 14 days after treatment.

CASE REPORT:

A 45 year old post menopausal lady with complaints of abdominal distension and heaviness of abdomen past 1 year, evaluated and detected to have huge Bilateral ovarian cysts, with no radiological evidence of malignancy. CA 125 was 25.6 U/ml. Staging laparoscopy with hysterectomy and bilateral salpingo-oophorectomy with total omentectomy and peritoneal fluid cytology was done on 10/07/2018 at GEM hospital and research centre, Coimbatore. Histopathology confirmed a serous papillary cystic tumour bilaterally. Hence she was decided for Robotic retroperitoneal lymphadenectomy on 28/07/2018. Boundaries for para aortic lymphadenectomy was left renal vein and right ovarian vein cranially and caudally upto mid common iliac vessels. Pelvic lymphadenectomy carried out till the mid common iliac vessels cranially and caudally upto the distal circumflex iliac vessels. On 16th post operative day patient presented with gradually increasing abdominal distension. On examination there was tense ascites, which was also evident in the ultra sound. Diagnostic tapping was done, which revealed milky fluid with a triglyceride level of 1188 mg/dl, confirming a diagnosis of chylous ascites. She was started on diet which was with low fat, predominantly cooked in coconut oil and with high protein content. Pure MCT powder supplement 2 teaspoons thrice daily given. Injection Octreotide 50 microgram subcutaneously thrice daily along with tablet Lasilactone (spironolactone 50 mg + frusemide 20 mg) once daily was given on alternate days. Abdominal girth and weight was monitored serially. The patient was discharged after 3 days with a decrease in 1 cm in the abdominal girth and no weight gain. The patient was reviewed after 12 days, the abdominal distension was totally reduced and ultrasound revealed minimal fluid in the peritoneal cavity. The resolution time was 15 days after beginning the therapy. She was advised to continue the same therapy for another 1 month during which she was totally asymptomatic and had no further abdominal distension.

DISCUSSION:

Chylous ascites (CA) is a rare form of ascites that results from the leakage of lipid-rich lymph into the peritoneal cavity. This usually occurs due to trauma and rupture of the lymphatics or increased peritoneal lymphatic pressure secondary to obstruction. The underlying etiologies for CA have been classified as traumatic, congenital, infectious, neoplastic, postoperative, cirrhotic or cardiogenic.^[1]

In gynecological malignancies, a higher risk of chylous ascites was with laparoscopic lymphadenectomy (0.9%)^[2] when compared to laparotomy (0.17 %)^[3]. A higher incidence noted with para aortic (4.08%) when compared to pelvic lymphadenectomy group (0.35%). Median time for resolution with conservative treatment was 7 days (range, 3–9 days)^[2]. In our patient the resolution time was 15 days after commencing the treatment. Meticulous surgical technique may decrease the occurrence of chyle leaks. Uses of ultrasound scissors or vessel sealing systems are not useful in preventing chyle leak^[4].

Avoiding injury to the thoracic duct or cisterna chyli is very difficult given the anatomic variations of lymphatics. Additionally, most patients are kept fasting prior to surgery making intraoperative identification of the duct and other lymphatic structures challenging^[4].

Diagnosis:

Abdominal paracentesis can demonstrate chyle leak which may be a frank milky, cloudy and turbid liquid.

Table 1. Ascitic fluid characteristics in chylous ascites (adapted from Cardenas and Chopra, 2002)^[5]

1. Color Milky and cloudy
2. Triglyceride level >200 mg/dl
3. Cell count >500 (predominance of lymphocytes)
4. Total protein 2.5–7.0 g/dl
5. SAAG Depends on the underlying etiology
6. Cholesterol Low (ascites/serum ratio <1)
7. Lactate dehydrogenase Between 110–200 IU/L
8. Culture May be positive
9. Amylase Elevated in cases of pancreatitis
10. Cytology Positive in malignancy
11. Glucose <100 mg/dl
12. Adenosine deaminase Elevated in cases of tuberculosis

Computed tomography (CT) of the abdomen can help in identification of ascites, particularly if due to post operative cause, to identify the exact location and extent of injury. Usually clear ascites and chylous ascites, show similar densities, hence CT might not exactly reveal the chylous nature of the fluid, which can be done by making the patient to lie supine for a while, in case of chylous ascites, a fat fluid level can be appreciated. This is due to lesser specific gravity of lipids than that of water. This sign may also be seen by ultrasonography^[1]

Lymphangiography and lymphoscintigraphy are modalities that can detect abnormal retroperitoneal, nodes, fistulas or leakage from lymphatic channels. They can also determine the patency of the thoracic duct. They are particularly useful in selecting patients that are suitable candidates for surgery. Besides the diagnostic role of identifying the lymphatic leaks, some reports have also suggested a therapeutic role in cases with lymphatic leakage.

The mechanism by which lymphangiography reduces lymphatic leaks has not yet been fully elucidated, it has been suggested that lipiodol, which is an ethiodized oil contrast agent, may induce an inflammatory and granulomatous reaction on extravasation during the procedure and

hence reduce leakage. Being an invasive procedure it is associated with complications such as infection, pain, and contrast extravasation during injection. Serious complications, such as intra-alveolar hemorrhage, contrast emboli in the lungs, extravasation of lipiodol into the soft tissue and allergic reactions, have also been reported^[6]

Management:

Administration of an oral diet is the preferred route to the extent possible. In patients who cannot consume an oral diet, commercially available formula feeds are used. Parenteral nutrition should be reserved for patients where all other options with enteral feeding have failed. A high-protein and low-fat diet with medium-chain triglycerides (MCT) is recommended. Dietary restriction of long-chain triglycerides avoids the requirement of conversion into monoglycerides and free fatty acids that are transported as chylomicrons by lymphatic channels. MCTs are absorbed directly from the intestine, and are transferred as free fatty acids and glycerol directly to the liver, reducing the production and flow of chyle. Coconut oil is a natural source of MCTs. However, currently there are many different synthetic MCT oils available for consumption.

Unfortunately, MCTs are sometimes considered to be unpalatable and may cause abdominal distension, nausea and vomiting due to their high osmolality, and all these factors together can result in poor dietary compliance^[7]. MCTs are usually well tolerated, although steatorrhea, mild gastrointestinal upset, increase of serum cholesterol have been occasionally reported in patients receiving higher doses and having preexisting hyperlipidemia^[1]

Patients with CA can be treated with a low-sodium diet along with diuretics, such as furosemide and spironolactone^[5]. Patients who do not respond to the above measures should have bowel rest to reduce lymph flow and should be started on total parenteral nutrition (TPN)^[8]. TPN bypasses the bowel and hence may reduce lymph flow. TPN formulations must be comprised of lipid formulations that are not transported through the lymphatic system and hence do not contribute to formation of chyle.

Pharmacological

Orlistat is a reversible inhibitor of gastric and pancreatic lipase and prevents the conversion of dietary triglycerides into free fatty acids in the intestinal lumen, thereby reducing the availability of fatty acids for absorption. It has minimal systemic absorption, hence the associated side effects are primarily gastrointestinal, such as loose oily stools. Somatostatin reduces portal pressure by inhibiting glucagon and vasodilatation mediated by other splanchnic intestinal peptides. Somatostatin also decreases thoracic duct flow and its triglyceride content. Due to its very short half-life (1–3 min) it is usually administered intravenously. Side effects may include diarrhea, hepatotoxicity, dizziness and thrombocytopenia. Octreotide is a synthetic version of somatostatin and has similar effects on glucagon secretion and portal pressure, but due to a longer half-life (of 12 hours) it can be administered subcutaneously. Besides lowering the portal pressure, it also suppresses the pancreatic exocrine function and hence decreases absorption of fat from the intestine. Case reports have suggested that octreotide reduces the need for paracentesis, with a maximum effect in the first month and after 6 months, and it can also lead to an improvement in quality of life of patients. It is important to note that the use of these agents is advocated in conjunction with the dietary measures mentioned above.

Etilefrine is a sympathomimetic drug used to treat postural hypotension. It has also been used successfully in the management of postesophagectomy chylothorax due to thoracic duct injury in patients with esophageal cancer. It has been suggested that it contracts the smooth muscles of the thoracic duct, which decreases the flow of chyle and hence promotes healing and closure. It is associated with side effects including headache, tachycardia and anxiety^[1].

Abdominal paracentesis:

In patients with symptomatic ascites, therapeutic paracentesis should be performed to relieve symptoms. Repeated large volume paracentesis may be a reasonable option for patients with end-stage liver disease who are not candidates for medical or surgical treatment. It is pertinent to note that paracentesis has both a diagnostic and a palliative role. While it does lead to prompt relief of symptoms, it is important to note that paracentesis alone is not effective and should always be combined with other conservative measures. Repeated

drainage of the ascitic fluid may be associated with complications such as prolonged leak, depressed immunity, increased risk of bacterial peritonitis and increased nutritional requirements^[9]

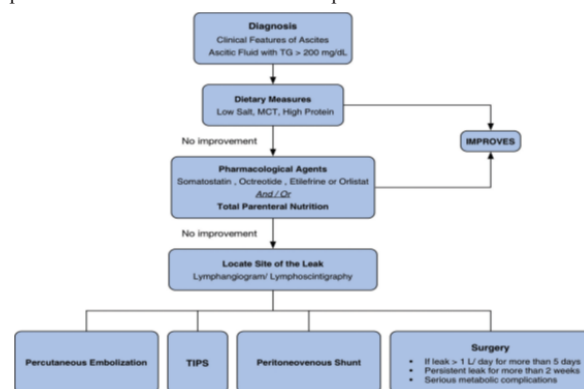


Fig 1 Algorithm for the management of chylous ascites^[1]

CONCLUSION:

Chylous ascites though rare, poses a serious morbidity to the patient. Post operative chylous ascites is on the rise with the advances in minimally invasive procedures for oncological procedures. Meticulous surgical dissection becomes a key factor in avoiding this complication. But injury to the lymph tracts could be unavoidable in a fasting patient where all the lymph tracts are extremely difficult to recognize. Dietary modifications with conservative management has very good outcome. Surgical options can be reserved for refractory ascites not responding to first line therapy.

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