**Introduction**

*Chylous Ascites (CA) is an uncommon finding with a reported incidence of 1:20,000 admissions at a large university-based hospital over a two-decade period.*

*A retrospective study of complications in 300, single surgeon, consecutive living laparoscopic donor nephrectomy (LLDN) cases over a five year time period revealed 2 cases of CA (0.66%).

*The most common cause of CA in adults is abdominal malignant disease. Most postoperative cases of CA, 81%, are secondary to surgery on the abdominal aorta.*

*We present a case of CA associated with LLDN, which is a rare and infrequently reported complication of this surgery.*

*The postulated mechanism of postoperative CA is inadvertent damage to the cisterna chyli or one of its major lumbar tributaries during retroperitoneal surgery.*

**Clinical Presentation**

*Postoperative chylous ascites can present with progressive abdominal distension, pain, nausea, vomiting, dyspnea and/or clinical signs of malnutrition.*

**Diagnosis**

*Sampling of ascitic fluid via paracentesis should be conducted. The triglyceride content of chyle is > 200 mg/DL and protein concentration > 3 g/dl. Cell counts reveal leukocytes with a predominance of lymphocytes.*

*Microscopic examination of the fluid with Sudan III staining reveals lipid globules or chylomicrons.*

**Clinical Case**

*A 47 year old female underwent an uneventful laparoscopic living donor nephrectomy (LLDN).*

*One week postoperatively, she presented with abdominal distention and dyspnea.*

*Diagnostic paracentesis revealed a milky fluid with high triglyceride content consistent with chylous ascites (CA).*

*Conservative management with total parental nutrition (TPN), furosemide, and subcutaneous octreotide was initiated.*

*As the CA was longstanding and refractory to conservative therapy, the patient underwent surgical repair.*

*Postoperatively, patient was tapered off of octreotide and TPN, and restarted on a diet.*

*The ascites resolved shortly thereafter, and she has remained asymptomatic.*

**Management**

*Conservative measures aim to reduce mesenteric lymphatic flow and lower chyle production via dietary measures, fat and salt restriction, diuretic use, and initiation of somatostatin.*

*Dietary measures include the provision of a high protein and low fat diet/medium chain fatty acids which directly enter the portal system; thereby bypassing the mesenteric lymphatic vessels and attenuating lymph production.*

*Patients may require replacement of nutritional losses with TPN and frequent paracentesis for symptom relief.*

*Surgical repair via ligation or clipping of a leaking lymphatic vessel is generally reserved for longstanding cases of CA refractory to conservative therapy.*

*It is recommended that 4 to 8 weeks of conservative management should be attempted before considering surgical exploration.*

*Proponents of early surgical intervention in the LLDN population argue that living donors are younger and healthier than most patients with CA. Therefore, surgical options in these patients should be considered sooner.*

**Conclusion**

*Chylous ascites is a complication of retroperitoneal surgery and is a difficult condition to treat with serious nutritional and immunologic consequences from the continuous loss of protein and lymphocytes.*

*We describe a case of CA as an infrequent complication of LLDN that was refractory to conservative therapy and required surgical intervention.*

*A similar treatment algorithm utilized to manage CA from other retroperitoneal surgeries can be used to treat chyloperitoenium as a result of LLDN.*

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**A Rare Cause of Chylous Ascites**

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