THE MANAGEMENT OF CHYLOUS ASCITES AFTER RADICAL HYSTERECTOMY WITH PELVIC LYMPH NODE DISSECTION: A RARE CASE REPORT

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Abstract

Chylous fistula is a rare complication after lymphadenectomy for treatment of gynecologic cancer. Its presence contributes substantially to increased morbidity. Chylous leakege is associated with serious nutritional and immunologic consequences due to the constant protein loss. Treatment options include conservative measures or surgical intervention. We report a 47-year-old women with fistula following systematic pelvic lymph node dissection for cervical cancer with neoadjuvant radiotherapy. The pacient was successfully treated by conservative management without complications or other clinical interventions. Our case demonstrated that conservative management is effective in treatment of chylous fistula. However, treatment options should be personalized and the right treatment should be chosen for each patient.

Rezumat: Managementul ascitei chiloase după histerectomie radicală cu limfadenectomie pelvină: o raportare de caz clinic rar

Fistula chiloasă este o complicaţie rară a limfadenectomiei efectuate în tratamentul neoplaziilor ginecologice. Apariţia acesteia contribuie substanţial la creşterea morbidităţii. Scurgerea chiloasă este asociată cu importante consecinţe nutrţiionale şi imunologice datorită pierderii constante de proteine. Alternativele terapeutice includ măsuri conservatoare sau intervenţia chirurgicală. Raportăm cazul unei paciente de 47 de ani cu fistulă după efectuarea limfadenectomiei pelvine pentru cancer de col uterin radiotratat neoadjuvant. Pacienta a fost tratată cu succes utilizând doar măsuri terapeutice conservative, fără a exista complicaţii sau fără a fi necesare alte intervenţii clinice terapeutice. Cazul nostru demonstrează că managementul terapeutic conservator este eficient în tratarea fistulei chiloase. Cu toate acestea, alternativele terapeutice ar trebui individualizate şi adaptate în funcţie de fiecare pacient.

Cuvinte cheie: Ascită chiloasă; Neoplazie ginecologică; Limfadenectomie; Octreotid

Introduction

Chylous ascites is a pathologic accumulation of lymphatic fluid in the peritoneal cavity. The peritoneal fluid is milky or creamy with a triglyceride concentration of >110 mg/dL and a volume of >100 mL/day.[1] Postoperative chylous ascites is a rare complication of retroperitoneal surgery caused by surgical trauma to lymphatic vessels. Other causes of chylous ascites include: tuberculosis, cirrhosis, lymphoma, radiotherapy and direct lymphatic metastasis.[2]

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Every lymphadenectomy may result in small amounts of chyle leaks, but they are rarely clinically evident as a result of spontaneous closure. The incidence of this complication associated with surgical treatment of gynecological cancer is low, up to 1% to 4%, radiotherapy being the most important risk factor.[3]

Chylous ascites is associated more frequently with radiotherapy after para-aortic lymph node dissection. This complication develops rather rarely without radiotherapy.[4] Clinical repercussions of chyle leak are: infection, compromised immune system, malnutrition and electrolyte abnormalities.[3]

Treatment options include: conservative measures or surgical exploration with peritoneo-venous shunt. Initial therapy favors conservative measures such as: limited fat intake diet, medium chain triglyceride intake, total parenteral nutrition, serial paracentesis and octreotide.[4] Surgical options are recommended if conservative therapy fails, but this kind of reinterventions are associated with a significantly higher morbidity.[5] We report one case of chylous ascites following radical hysterectomy with pelvic lymph node dissection for cervical cancer with neoadjuvant chemotherapy and radiotherapy. The case was successfully managed with conservative treatment.

Case report

A 47-year-old women without significant pathologies was referred to our institution with metrorrhagia, vaginal bleeding after sexual intercourse and abnormal cervical cytology (HSIL/CIN III). After biopsy evaluation the patient was diagnosed with moderately differentiated squamous cell cervical cancer.

Abdominal and pelvic computed tomography showed uterine cervix increased in size with a heterogeneous structure postcontrast and no evidence of extra uterine disease, resulting a clinical stage of IB_2 squamous cell carcinoma of the uterine cervix. A radical hysterectomy with pelvic lymph node dissection was performed. A drain tube was left in the pelvis. Before surgery the patient received external beam radiotherapy (46Gy/23f/38days), brachytherapy (25Gy) and concomitantly 4 cycles of chemotherapy with cisplatin 20mg/m^2.

The final pathological finding was stage IB_2G_2 squamous cell carcinoma (FIGO). All 12 lymph nodes were pathologically free of disease.

Oral diet was started on the third post operativeday and during the fourth day the serous fluid drainage turned into milk whitish. It was also associated with an increasing volume of drained fluid from 300 mL to 700 mL for 24 hours.

Laboratory examination of the fluid revealed: glucose of 94 mg/dL, triglycerides of 189 mg/dL and proteins of 2,68 g/dL without tumor cells or infection. Serum proteins were 5,7 g/dL and albumin 3,6 g/dL.

On the seventh postoperative day, after three days of increased volume of drained fluid (700 mL/day) and no signs of clinical improvement, conservative management was started: low fat diet with medium-chain triglycerides, 100 µg of subcutaneously somatostatin (octreotide)/day and 50 mL of parenteral albumin/day. After only 48 hours the drained fluidbecame serous, decreased abruptly to 400 ml on the 12th day, then to 150 mL on the 22th day (Figure 1).

Octreotide therapy and parenteral albumin were used for 5 days. She was discharged on 24th postoperative day and the drain was removed after a 100 mL drainage volume in 24 hours. Because the lymph nodes were negative no adjuvant therapy was necessary. She continued a low-fat and a high-protein oral diet for 6 weeks.

She was completely asymptomatic with no reaccumulation of the ascites after 3 months of follow-up.

Discussion

The incidence of chylous ascites is rare and has been identified by Aalami et al. to be 1:20,000.[6]

The English literature showed 44 chylous ascites case reports associated with gynecologic cancers.[6] The pelvic lymph node dissection may cause postoperative chylous ascites. Han et al.[7] reported 7 cases of chylous ascites among 4,119 patients who underwent pelvic or/and para-aortic lymph node dissection for gynecological cancer. This

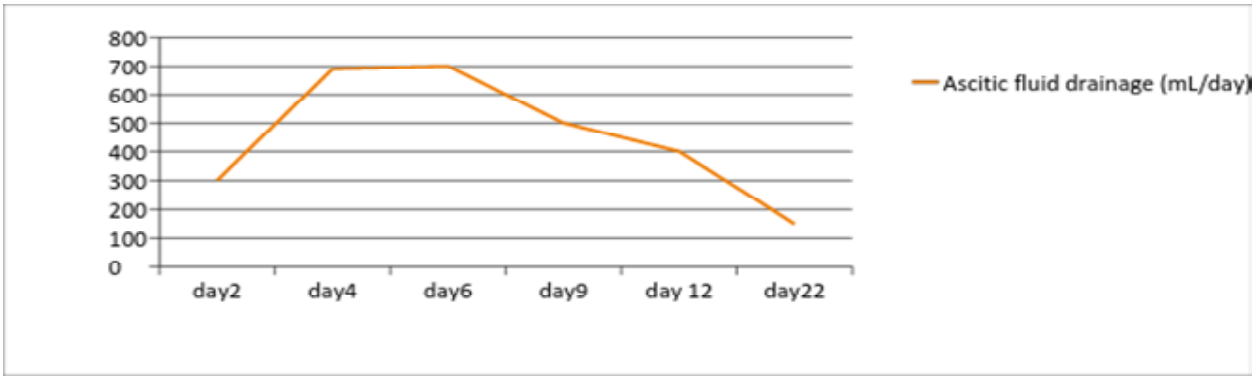

Figure 1. *Daily volume of ascitic drained fluid*

incidence is very low. In gynecologic oncology, chylous ascites is usually secondary to operative trauma or radiation therapy. Mayo Clinic reported an incidence of 3% for chylous ascites in a review with 207 patients who received whole-abdomen radiation.[6]

Patients with chylous ascites present abdominal distention, indigestion, nausea, vomiting.[2] The characteristics of ascitic fluids are: clear milky color, odorless, sterile, alkaline pH, triglyceride level above 200 mg/dL, high protein content between 2,5 and 7 g/dL, glucose below 100 mg/dLand high lymphocytes level.[9]

Because of its rarity, the management of chylous ascites remains controversial and a variety of successful strategies have been reported. Alami at al.[6] published a large review of 156 cases in which they reported a 67% resolution rate with conservative treatment and the remaining 33% of patients required surgical procedures.

Conservative management of chylous ascites is based on low-fat diet with medium-chain triglycerides. The objective is to decrease the intestinal lymphatic flow and triglycerides transport.[2] The diet should be performed for 6 weeks. The medium-chain triglycerides are absorbed directly into the portal venous system, in contrast with long-chain triglycerides which are absorbed pass along omental lymphatics into the cistern chyli and then to the thoracic duct.

The use of total parenteral nutrition (TPN) without oral intake should minimize chyle production. Lentz et al. concluded that TPN is not a major therapeutic factor because the benefit of TPN is derived from the caloric and protein replacement rather than the specific exclusion of long-chain triglycerides.[10]

Patients who do not respond to this therapy may be responsive to somatostatin (octreotide) therapy. The action of somatostatin is mediated throught specific receptors that are distributed in various regions, including the pancreas, gastrointestinal tract and vascular tissues. As a result, the intestinal secretion and absorbtion is inhibited and the lymphatic and splachnic blood flow is decreased.[11] Octreotide is expected to reduce the output of lymphatic drainage after 24 to 72 hours. By using the octreotide therapy there have been described various success rates and it has been recommended in cases not responsive to the initial conservativemeasures.[2]

Han et al.[7] reported 7 cases of postoperative chylous ascites which were successfully managed mainly with serial paracentesis. The use a continuous low-pressure drainage system for maintaining negative pressure in the peritoneal cavity would result in earlier closure of the chylous fistula and keep the drainage tube clean by avoiding backward flow.[8]

In case of failure of conservative measures, there have been described other treatment options like image guided sclerotherapy using lymphoscintigraphy to localize the leak site, glue embolization[12] or surgical intervention.[2] In a study by Matsumoto et al. patients underwent lymphangiography, in 8 of them the lymphatic leakage was stopped after lymphangiography.[13]

The use of peritoneo-venous shunt remains a satisfactory therapeutic or palliative option for the management of refractory chylous ascites.

Most authors recommend that peritoneo-venous shuntsshould be reserved for those cases that have failed conservative therapy, for patients that are not good surgical candidates or in cases where lymphangiography cannot detect the leak.[10] The peritoneo-venous shunt can be associated with a higher rate of complications: sepsis, disseminated intravascular coagulation, ascites leak, occlusion of the shunt because of high viscosity, hypokalemia, air embolism and pulmonary edema.[14]

Based on literature reviews, we propose a treatment algorithm shown in Figure 2. Our case was successfully treated with conservative measures. We associated low-fat diet with medium-chain triglycerides, octreotide (100 µg/day subcutaneously) and parenteral albumin (50 mL/day) for 5 days. Parenteral albumin was administered because the serum protein concentration was low whichmay be associated with malnutrition and compromised immune system. With these measures, the chylous fistula was resolved in less than 10 days. We usually leave a drain 7 days after pelvic lymph nodedissection facilitating the diagnose of postoperative chylous fistula and monitor its resolution. The patient was asymptomatic at follow-up.

In conclusion, chylous ascites is a rare, but important complication after pelvic lymphadenectomy. In accordance with previous studies, we have demonstrated that postoperative chylous ascites is more common after pelvic lymphadenectomy with adjuvant radiotherapy.

Acknowledgments

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Disclosure

None declared.

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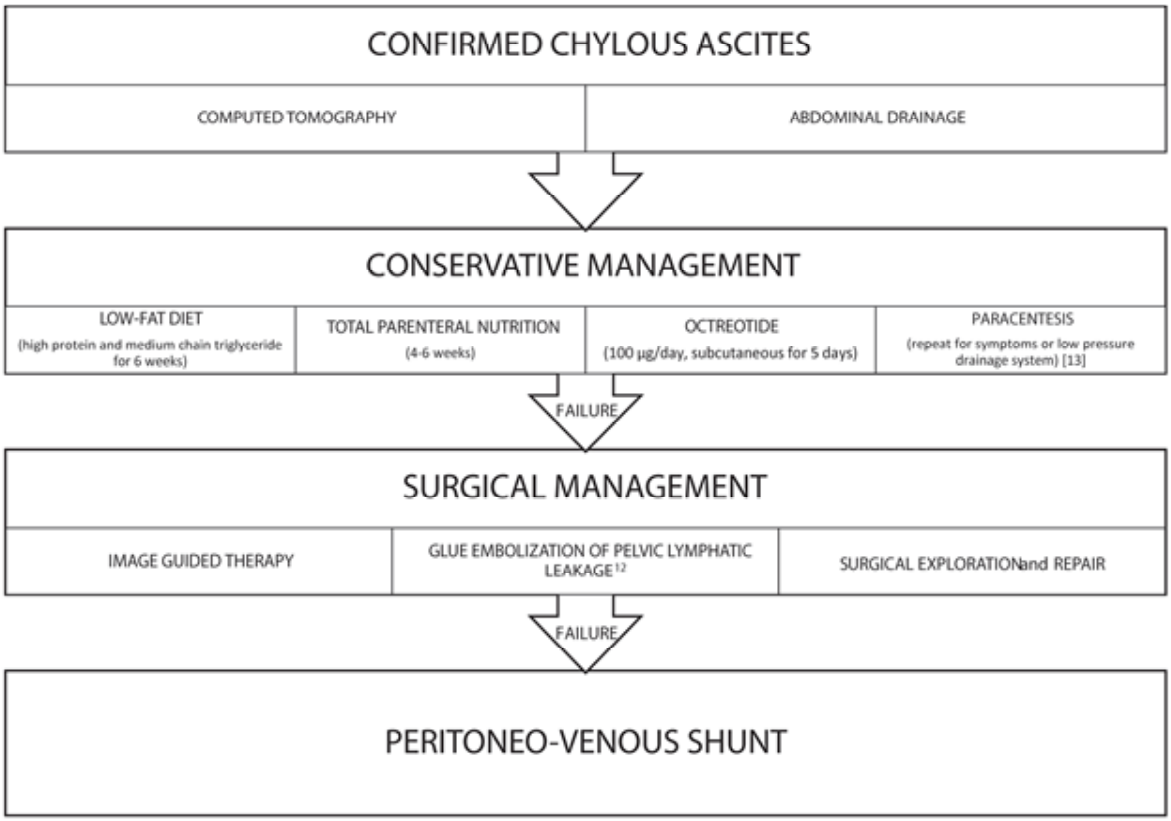

Figure 2. Algorithm for the management of chylous ascites in gynecologic malignancies

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