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Persistent Chylous Lymphorrhea Following Open Myomectomy: A Rare and Challenging Postoperative Complication

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Abstract

Chylous lymphorrhea is an uncommon postoperative complication resulting from disruption of lymphatic channels, most frequently reported after retroperitoneal or oncologic surgeries. Its occurrence following open myomectomy is exceedingly rare. We report a challenging case of persistent chylous lymphorrhea in a 47-year-old woman following open abdominal myomectomy for multiple large uterine fibroids. The patient developed a high-output chylous collection originating from the left retroperitoneal/pararenal region, confirmed biochemically by elevated triglyceride levels. Despite prolonged conservative management including drainage, dietary modification, albumin supplementation, and somatostatin therapy, the lymphorrhea persisted. A subsequent exploratory laparotomy with total abdominal hysterectomy and bilateral salpingo-oophorectomy failed to definitively identify a leaking lymphatic source. The condition ultimately followed a prolonged but regressive course under conservative management, with near-complete resolution over one year. This case highlights the diagnostic and therapeutic challenges of postoperative lymphorrhea after benign gynecologic surgery and emphasizes the importance of patience with conservative management.

Introduction

Myomectomy is a commonly performed surgical procedure for the management of symptomatic uterine fibroids (Raymond et al 2023), particularly in women desiring uterine preservation. Although generally safe, it may be associated with complications such as hemorrhage, infection, adhesions, and injury to adjacent organs. Lymphatic complications, particularly chylous lymphorrhea, are extremely rare following benign gynecologic surgery.

Chylous lymphorrhea results from disruption of major lymphatic channels, leading to persistent leakage of triglyceride-rich lymphatic fluid. It is most commonly reported after pelvic lymphadenectomy, vascular surgery, or retroperitoneal oncologic procedures [1]. To date, very few cases have described chylous lymphorrhea following open myomectomy. We present a rare case of persistent postoperative chylous lymphorrhea following extensive open myomectomy for multiple large fibroids, complicated by prolonged hospital stay and challenging management.

Case presentation

A 47-year-old nulligravid woman with a Body Mass Index (BMI) of 32 kg/m² presented with symptomatic uterine fibroids. She had no medical comorbidities. Imaging revealed a markedly enlarged uterus containing multible fibroids, ranging in size from 2 cm to 15 cm, causing pressure symptoms and menorrhagia. After counseling, the patient opted for surgical management.

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Surgical procedure

An open abdominal myomectomy was performed via a wide Pfannenstiel incision with vertical extension of the abdominal sheath. Intraoperatively, extensive dissection was required due to the number and size of fibroids. The retroperitoneum was opened to access broad ligament fibroids, and both ureters were identified and visualized throughout the procedure. Hemostasis was secured, and an Intraperitoneal (IP) drain was placed.

Postoperative course

The immediate postoperative period was initially uneventful. The IP drain had <100 cc serous fluid for the first two postoperative days. However, on postoperative day 2, a left loin fullness was detected on physical examination. Ultrasound confirmed a left-sided retroperitoneal/pararenal fluid collection 10×11 cm. A pigtail catheter was inserted, draining approximately 1500 mL/day of milky (chylous) fluid. The IP drain was removed on postoperative day 7.

Biochemical analysis of the drained fluid revealed high triglyceride content, confirming the diagnosis of chylous lymphorrhea beside showing serum level creatinine. Computed tomography angiography with oral and intravenous contrast failed to identify a definite source of leakage or any urinary or vascular injury.

The patient remained hospitalized for nearly one month, with persistent high-output drainage.

Conservative management included:

- Continuous drainage
- Low-fat diet
- Intravenous albumin supplementation every 12 hours for 10 days
- Close electrolyte and vital sign monitoring

Serum albumin levels fluctuated between 2.5 and 4 g/dL with otherwise normal range labs including HB TLC electrolytes and kidney and liver functions

A trial of somatostatin injections was initiated on postoperative day 15 for five consecutive days, without significant reduction in drain output.

Second surgical intervention

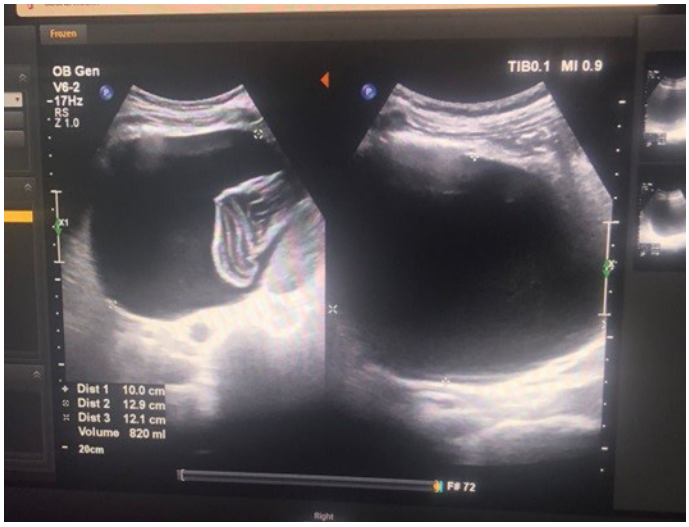
By postoperative day 29, with persistent lymphorrhea and stable general condition, a decision was made to proceed with exploratory laparotomy, considering the uterus as a potential source of lymphatic leakage. A midline incision was used, and total abdominal hysterectomy with bilateral salpingo-oophorectomy (TAH-BSO) was performed. A left pararenal retroperitoneal collection was identified intraoperatively, without a well-defined wall or visible lymphatic leak. Two intraperitoneal drains were placed one pelvic and one in left loin region.

Delayed recurrence and long-term course

By postoperative day 3, the follow up ultrasound showed recurrent collection in the same area 8x7x6 cm. In contrast the drains remained dry, even after flushing, and were subsequently removed.

The recurrent left loin collection, increased gradually by approximately 1 cm per day, reaching a maximum size of 10×12×12 cm on ultrasound. A single intracavitary injection of doxycycline (vibramycin 100 mg diluted in 5 cm normal saline) was administered as a sclerosing agent using a spinal needle based on [2]. No further drainage catheters were inserted.

The collection subsequently stabilized and gradually regressed. The patient was discharged on day 42 with weekly ultrasound follow-up. Imaging demonstrated a continuous reduction in size over six months, reaching 3×3×2 cm, with complete resolution of symptoms.



At one-year follow-up, the residual collection measured 3×1×2 cm, and the patient remained clinically well and asymptomatic.

Discussion

Chylous lymphorrhea is an unusual complication in benign gynecologic surgery [3]. The extensive retroperitoneal dissection required for removal of broad ligament fibroids in this case likely resulted in injury to lymphatic channels, particularly near the pelvic sidewall and para-aortic lymphatic pathways.

Differential diagnoses include urinary leak, seroma, hematoma, and pancreatic fluid collections; however, the milky appearance and elevated triglyceride levels with cytology and creatinine level measurements confirmed the chylous nature of the fluid. Imaging studies often fail to localize the exact source of leakage, as observed in this case.

Management strategies range from conservative approaches—including drainage, dietary modification, somatostatin analogues, and nutritional support —to invasive procedures such as lymphangiography with embolization or surgical ligation which were not applicable in our case. Despite prolonged high-output drainage, our patient ultimately improved with conservative management, highlighting the self-limiting nature of many lymphatic leaks.

The decision to perform hysterectomy remains debatable, as no definitive source was identified intraoperatively and was discussed with the patient thoroughly. Nonetheless, it allowed reassessment of the retroperitoneal space and exclusion of other causes.

Conclusion

Persistent chylous lymphorrhea following open myomectomy is an exceptionally rare but challenging complication. Extensive retroperitoneal dissection appears to be a key risk factor. Conservative management, although prolonged, can result in gradual resolution and should be prioritized in stable patients. Awareness of this complication may help gynecologic surgeons in early diagnosis and appropriate management, potentially avoiding unnecessary interventions.

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