Case Report

Chylous Ascites with External Drainage Following Elective Cesarean Section: Rapid Response to Medium-Chain Triglycerides and Octreotide: A Rare Postoperative Case Report

Samiullah Emal

Liver Clinic, Lahore, Paksitan

Abstract

Chylous ascites is an uncommon accumulation of triglyceride-rich lymph within the peritoneal cavity, usually caused by lymphatic obstruction or disruption. It is particularly rare in pregnancy and after cesarean delivery. A 32-year-old woman underwent elective lower-segment cesarean section on 18 September 2026 and delivered a healthy baby girl. During the postoperative period she developed persistent milky-white drainage exceeding 200 mL every 12 hours. She remained afebrile; the complete blood count was reported as normal and C-reactive protein was 60 mg/L. Pelvic ultrasonography demonstrated a postoperative collection of approximately 61 mL around the involuting uterus with a drainage tube in situ. Fluid examination was lymphocyte-predominant (98%), with protein 2.7 g/dL, lactate dehydrogenase 228 U/L and glucose 89 mg/dL; Gram stain showed no microorganisms, Ziehl-Neelsen stain showed no acid-fast bacilli, and cytology was negative for malignant cells while showing a fatty background consistent with chyle. Chylomicrons were demonstrated, confirming the chylous nature of the fluid. No peripheral lymphadenopathy was detected. On 25 September 2026 she was started on a high-protein, low-fat diet with medium-chain triglyceride oil 20 mL orally four times daily and octreotide (Sandostatin) 100 micrograms subcutaneously every 8 hours. Within approximately one week the fluid became pale and drainage fell to about 50 mL per 24 hours, with marked clinical improvement. Early postoperative chylous ascites with external drainage after cesarean section is rare. Recognition of the characteristic fluid, confirmation with chylomicrons, exclusion of major alternative causes and prompt conservative treatment can avoid unnecessary reoperation. This case demonstrates a rapid response to medium-chain triglyceride-based nutritional therapy and octreotide.

Keywords: chylous ascites; chyle leak; cesarean section; lymphatic injury; octreotide; medium-chain triglycerides; postpartum; case report

How to cite this:

Emal S. Chylous Ascites with External Drainage Following Elective Cesarean Section: Rapid Response to Medium-Chain Triglycerides and Octreotide: A Rare Postoperative Case Report. J Health Advance Res Genom. 2026;1(1): 57-60

Corresponding Author: Dr. Samiullah Emal **Email:** samiullahemal@gmail.com

Received: 14-07-2026 **Revised:** 13-09-2026 **Accepted:** 04-11-2026

Introduction

Chylous ascites is the pathological accumulation of lipid-rich lymph within the peritoneal cavity following disruption or obstruction of the abdominal lymphatic system. Its classical appearance is milky or creamy because of chylomicrons derived from intestinal absorption of long-chain dietary fat. The condition is uncommon and may arise from malignancy, cirrhosis, infection, congenital lymphatic abnormalities, trauma or surgery.[1-4]

The biochemical diagnosis is most secure when chylomicrons are demonstrated in the fluid. Ascitic fluid triglyceride concentration is commonly used as a practical surrogate; thresholds around 187–200 mg/dL have traditionally been used, although more recent work shows that the optimal cut-off depends on the clinical population and laboratory method.[4-6]

Postoperative chylous leakage is best recognized after procedures involving extensive retroperitoneal or lymphatic dissection. It is distinctly unusual after lower-

segment cesarean section, where no formal lymphadenectomy is performed. Pregnancy itself may alter lymphatic dynamics through mechanical compression by the gravid uterus and hormonally mediated lymphatic dilatation, and isolated cases of chylous ascites have been described during pregnancy, at cesarean delivery and in the postpartum period.[8–12]

We report an early postoperative chylous ascites/chylous leak presenting as persistent external milky drainage after elective cesarean delivery, confirmed by chylomicrons and successfully managed without reoperation using dietary medium-chain triglycerides and octreotide.

Case Presentation

A 32-year-old woman was admitted for an elective lower-segment cesarean section (LSCS). The operation was performed on 18 September 2026 and resulted in the delivery of a healthy baby girl.

In the postoperative period she developed persistent drainage of a white, milky fluid from the abdominal/pelvic drainage pathway. The output exceeded 200 mL every 12 hours (more than approximately 400 mL/day) and persisted over the following days. There was no fever. The complete blood count was reported as normal, while C-reactive protein was 60 mg/L.

Abdominal and pelvic ultrasonography performed on 23 September 2026 showed a bulky postpartum uterus in involution and a cystic postoperative collection with internal echoes around the uterus measuring approximately 6.8 x 3.2 x 5.3 cm (estimated volume about 61 mL), with a drainage tube in situ. There was no collection around the surgical wound and no pleural effusion. The examination did not identify a focal abdominal mass.

Analysis of the drained fluid showed glucose 89 mg/dL, protein 2.7 g/dL and lactate dehydrogenase 228 U/L. The total leukocyte count in the fluid was 195 cells/mm3 with 98% lymphocytes and 2% neutrophils; red blood cells were 650 cells/mm3. No microorganisms were seen on Gram stain and no acid-fast bacilli were seen on Ziehl-Neelsen staining. Cytological examination showed a few lymphocytes and occasional neutrophils against a fatty background, was interpreted as consistent with chylous fluid, and revealed no malignant cells. Chylomicrons were demonstrated in the fluid, establishing the diagnosis of a chylous leak/chylous ascites.

The patient was evaluated on 25 September 2026. No peripheral lymphadenopathy was detected. In view of the temporal relationship to surgery, the absence of an identified mass or lymphadenopathy, negative malignant cytology and the characteristic chylous fluid, a postoperative lymphatic leak related to the recent cesarean section was considered the most likely diagnosis.

Conservative therapy was instituted with a high-protein, low-fat diet supplemented with medium-chain triglyceride (MCT) oil, 20 mL orally four times daily. Octreotide (Sandostatin) was started at 100 micrograms (0.1 mg) subcutaneously every 8 hours. Drain output and the appearance of the fluid were monitored.

The response was rapid. Within approximately one week the drainage changed from milky-white to a much paler fluid and fell to approximately 50 mL in 24 hours. The patient reported marked symptomatic improvement and remained clinically stable. At the time of this report, the trajectory was strongly toward resolution with conservative management.

Discussion

This case is notable for three reasons: the association with an otherwise routine elective cesarean section, the early manifestation as a persistent external chylous drainage rather than simply progressive abdominal distension, and the brisk response to non-operative treatment with MCT supplementation and octreotide.

Milky postoperative fluid has a broad differential diagnosis, including pus, enteric leakage, pseudochylous

Clinical Timeline:

Date	Clinical event	Key findings/management
18-Sep-26	Elective LSCS	Healthy baby girl delivered.
18-25 Sep 2026	Persistent milky drainage	>200 mL every 12 h; no fever.
23-24 Sep 2026	Imaging and fluid evaluation	US: ~61 mL pelvic collection around uterus with drain in situ. Fluid lymphocyte-predominant; cytology fatty/chylous; no malignant cells; Gram/Z.N. stains negative; chylomicrons demonstrated.
25-Sep-26	Specialist assessment	No peripheral lymphadenopathy. Started high-protein/low-fat diet, MCT oil 20 mL QID and octreotide 100 micrograms SC q8h.
~1 week after treatment	Marked response	Fluid became pale; output decreased to ~50 mL/24 h; patient markedly improved.

fluid and true chyle. The demonstration of chylomicrons is the most specific laboratory confirmation of true chyle.[4–6] The marked lymphocyte predominance and fatty cytological background in this patient were supportive, while the absence of organisms on Gram stain, lack of fever and normal peripheral blood count made overt bacterial peritonitis less likely. The pelvic collection with a drain in situ confirms that the externally observed fluid arose from an intra-abdominal/pelvic postoperative collection, making the formulation 'chylous ascites with external drainage' clinically appropriate.

The exact site of lymphatic disruption was not demonstrated and therefore cannot be stated with certainty. Direct injury to small pelvic lymphatic channels during lower abdominal surgery is biologically plausible. Pregnancy may also increase susceptibility to leakage: the enlarged uterus can increase intra-abdominal and lymphatic pressure, and hormonal effects have been proposed to promote lymphatic dilatation.[9,10,12] A cesarean incision performed in this setting may therefore unmask or aggravate leakage from distended lymphatic channels. Because no mass or lymphadenopathy was found clinically and cytology was negative for malignant cells, an occult malignant obstruction appeared less likely in this presentation, although recurrence or failure to resolve would warrant renewed investigation.

Chylous ascites is rare overall and is much rarer in obstetric practice. Reviews and case series describe only scattered pregnancy-associated cases.[8–10,12] Thompson and Al Khabbaz described chylous ascites recognized intraoperatively at cesarean delivery, whereas later reports have described spontaneous or pregnancy-associated chylous ascites before or around delivery.[8–10] A 2026 South Asian report described chylous ascites presenting after cesarean section, highlighting that this diagnosis can emerge after an apparently uncomplicated operation.[11] The present case differs in its early, persistent external chylous drainage exceeding roughly 400 mL/day, direct confirmation with chylomicrons and rapid fall in output after combined MCT-based nutritional therapy and octreotide.

The goals of conservative therapy are to reduce intestinal lymph production, maintain nutrition and allow the disrupted lymphatic channel to close. Long-chain triglycerides enter intestinal lymphatics and increase chyle flow, whereas medium-chain triglycerides are absorbed predominantly into the portal circulation. Accordingly, a high-protein, low-fat diet supplemented with MCT is a standard first-line strategy.[2–4]

Somatostatin and its analogue octreotide have been used in postoperative and nonoperative chylous leaks. Although evidence is derived largely from case reports and observational experience and an optimal regimen has not been established, octreotide is thought to reduce splanchnic blood flow, intestinal absorption and lymphatic flow.[2–4,7] The dose used in this case, 100 micrograms subcutaneously every 8 hours, was followed by a striking reduction in drainage from more than 400 mL/day to approximately 50 mL/day within one week.

Persistent high-output leakage despite adequate nutritional therapy, clinical deterioration, malnutrition or failure of the leak to close should prompt escalation. Options described in the literature include temporary bowel rest with parenteral nutrition, lymphangiography with targeted embolization where available, and surgical identification and ligation of the leaking lymphatic channel in selected refractory cases.[3,7] The favorable response in this patient made invasive intervention unnecessary.

Important alternatives after cesarean delivery include postoperative seroma or lymphocele, infected collection/abscess, urinary tract injury with urinoma, enteric injury, hemorrhagic collection, pancreatitis-associated ascites, tuberculosis, malignant ascites and preeclampsia/hypoproteinemia-related ascites. The characteristic milky appearance and chylomicrons established a true chylous process, while the available microbiology, cytology, clinical examination and imaging did not suggest infection or malignancy. The temporal relation to surgery and prompt improvement with chyle-directed therapy further supported a postoperative lymphatic leak.

Conclusion

Chylous ascites with external drainage is a very uncommon complication of cesarean section. In this 32-year-old postpartum woman, persistent high-volume milky drainage was confirmed as chyle by the presence of chylomicrons and supportive cytology. A conservative regimen consisting of a high-protein, low-fat diet, MCT oil and octreotide produced a rapid reduction in output and marked clinical improvement. The case reinforces the importance of recognizing chyle early after abdominal surgery and demonstrates that timely conservative therapy can achieve substantial improvement while avoiding reoperation.

Consent for Publication: Written informed consent was obtained from the patient for publication of this case report and any accompanying images

Conflict of Interest None

Funding Source None

Authors' Contribution

SE: Conception.

SE: Design of the work.

SE: Data acquisition, analysis, or interpretation.

SE: Draft the work.

SE: Review critically for important intellectual content.

All authors approve the version to be published.

All authors agree to be accountable for all aspects of the work

References

1. Cárdenas A, Chopra S. Chylous ascites. Am J Gastroenterol. 2002;97(8):1896-900.
2. Al-Busafi SA, Ghali P, Deschênes M, Wong P. Chylous ascites: evaluation and management. ISRN Hepatol. 2014;doi:10.1155/2014/240473.
3. Lizaola B, Bonder A, Trivedi HD, Tapper EB, Cardenas A. Review article: the diagnostic approach and current management of chylous ascites. Aliment Pharmacol Ther. 2017;46(9):816-24.
4. Bhardwaj R, Vaziri H, Gautam A, Ballesteros E, Karimeddini D, Wu GY. Chylous ascites: a review of pathogenesis, diagnosis and treatment. J Clin Transl Hepatol. 2018;6(1):105-13.
5. Thaler MA, Bietenbeck A, Schulz C, Luppa PB. Establishment of triglyceride cut-off values to detect chylous ascites and pleural effusions. Clin Biochem. 2017;50(3):134-8.
6. Lefrère B, Curis E, Bittar R, Levasseur A, Grès P, Guilbert Z, et al. Diagnosis of chylous abdominal effusions: what is the triglyceride threshold value? Biochem Med (Zagreb). 2023;33(2):020902.
7. Weniger M, D'Haese JG, Angele MK, Kleespies A, Werner J, Hartwig W. Treatment options for chylous ascites after major abdominal surgery: a systematic review. Am J Surg. 2016;211(1):206-13.
8. Thompson KA, Al Khabbaz A. Incidental chylous ascites at the time of cesarean section. Case Rep Obstet Gynecol. 2015;doi:10.1155/2015/530210.
9. Zhang B, Zhang X, Wang Y. Idiopathic chylous ascites in pregnancy: a case report. Iran J Public Health. 2018;47(7):1034-6.
10. Hoi NX, Anh NTH, Ly PT, Tuan ND. The first case report of chylous ascites in a twin pregnancy following in vitro fertilization: a case report of chylous ascites in twin pregnancy. Ann Med Surg (Lond). 2025;87(9):6211-5.
11. Mishra S, Pradhan AP, Mishra D, Desai GS. Case Report of Chylous Ascites after Cesarean Section: A Rare Postoperative Puzzle. J South Asian Feder Obst Gynae. 2026;18(3):398-400.
12. Epelde C, Saravia F, Aguinaga M, Toledo A, Lekuona A, Gorostidi M. Acute Abdomen in Pregnancy due to Idiopathic Chylous Ascites. Case Rep Obstet Gynecol. 2024;. doi:10.1155/2024/8898451.