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## Case Report

# Chylous ascites following total laparoscopic hysterectomy done for benign pathology: a rare complication

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### ABSTRACT

Chylous ascites is an uncommon form of ascites, defined as the leakage of the lipid-rich lymph into the peritoneal cavity. It is a common complication seen following surgeries done for gynecological malignancies. Chyle leak following benign surgery is an extremely rare entity. The presence of a milky appearing ascitic fluid with triglyceride content above 200 mg/dl is diagnostic of chylous ascites. High-protein and low-fat diet with MCT reduce the production and flow of chyle and seal the leak. We present a 53-year-old, para 2 living 2, lady with heavy menstrual bleeding and congestive dysmenorrhea for 3 years. She was diagnosed with AUB A and failed to respond to medical management. Her general physical examination was unremarkable and gynaecological examination revealed bulky uterus enlarged to 12 weeks' gravid uterine size. She underwent TLH and BSO. On post-operative day 2, 280 ml milky white fluid was noted in the pelvic drain. Drain fluid triglyceride was noted to be 723 mg/dl. High protein and low fat diet with MCT was initiated. Over the following 3 days the drain output showed a gradual decline and on day 6 serous fluid was noted in the drain. She recovered well and was discharged on 8th post-operative day. Chylous ascites following hysterectomy has not been reported in literature. We report this case to emphasize the rarity of this complication following laparoscopic hysterectomy for benign pathology and the successful management by conservative measures.

**Keywords:** Chylous ascites, MCT, Total laparoscopic hysterectomy

### INTRODUCTION

Chylous ascites is defined as accumulation of milk-like peritoneal fluid, rich in triglycerides. It is a rare complication following retroperitoneal surgery wherein there is disruption of lymphatics. It is seen in 3% of patients who undergo para aortic lymph node dissection for gynaecological malignancies.<sup>1</sup> Abdominal aortic surgical procedures account for 80% of post-operative chyle leak in the peritoneal cavity.<sup>2</sup> Post-operative chyle leak following surgery done for gynaecologic malignancy is frequently seen due to the extensive lymphadenectomy done in the retroperitoneum. Despite being a rare complication, it is associated with significant morbidity. The loss of chyle results in nutritional depletion and immunological problems due to loss of lymphocyte.<sup>3</sup>

Adenomyosis is a benign pathological condition where the endometrial tissue gets embedded in the uterine myometrium. We present a patient who underwent total laparoscopic hysterectomy for Adenomyosis of uterus who developed chylous ascites post operatively. This is an extremely rare complication seen after hysterectomy done for benign pathology and there was no reported cases available in literature so far.

### CASE REPORT

We present a 50-year-old, para 2 living 2, lady with heavy menstrual bleeding and congestive dysmenorrhea for 3 years. She was diagnosed with adenomyosis and abnormal uterine bleeding (AUB-A) (PALM COIEN classification) and failed to respond to medical management. Her general

physical examination was unremarkable and gynaecological examination revealed uterus uniformly enlarged to 12 weeks' gravid uterine size. She had no comorbidities or surgeries in the past. Transvaginal ultrasound revealed uniformly enlarged uterus with heterogenous texture, with normal endometrial thickness and adnexa. She underwent total laparoscopic hysterectomy with bilateral salpingo oophorectomy. The primary supraumbilical port was placed at ease after creating pneumoperitoneum by verres. The procedure was uneventful and the estimated blood loss was 100 ml. The histopathology was reported as adenomyotic uterus with normal tubes and ovaries.

On post-operative day 1, the patient was comfortable, vitally stable with adequate urine output. On day 2, 280 ml milky white fluid was noted in the pelvic drain and she was vitally stable with no signs of paralytic ileus. Drain fluid was sent for biochemical analysis and triglyceride was noted to be 723 mg/dl. High protein and low fat diet with MCT was initiated.

Over the following 3 days the drain output showed a gradual decline and on day 6 minimal serous fluid was noted. She was stable and discharged on day 8.



**Figure 1: Milky white fluid in the abdominal drain from POD2.**

## DISCUSSION

Lymphatic fluid located in the interstitial space contains cells, proteins and chylomicrons. The cisterna chyli is a lymphatic sac located at the level of L1 level. The intra-abdominal lymph drains into the cisterna chyli which continues as the thoracic duct above in the thoracic cavity and drains in the neck into the junction of left internal jugular and subclavian veins.<sup>4</sup> The leakage of lipid rich lymph into the peritoneal cavity causes chylous ascites and it is characterised by the clinical appearance of milky appearance of ascitic fluid with a triglyceride level of >200 mg/dl.<sup>5</sup> The cell counts will be more than 500/mm<sup>3</sup> with

lymphocyte predominance. The chyle fluid is odourless, alkaline and sterile.

The various aetiologies attributed for chylous ascites can be classified into traumatic, infectious, congenital, neoplastic, cirrhotic and post-operative. Malignancy and cirrhosis accounts for more than two thirds of all causes chylous ascites. Even though the incidence of chylous ascites is low, it carries a mortality rate of 40 to 70% and higher morbidity based on the etiology.<sup>6</sup> Malignancies account for 85% of cases in atraumatic cause for chylous ascites and carry poor prognosis.<sup>7</sup>

Studies have mentioned that chyle leak occurs in gynaecologic cancer surgeries with paraaortic lymph node dissection. Chyle leak following hysterectomy done for benign pathology without lymphadenectomy is a rare occurrence. There have been no such cases reported in the literature so far. There was one case of chyle leak following laparoscopic myomectomy.<sup>8</sup>

The risk factors associated with post-operative chyle leak are extensive lymphadenectomy and lymphatic metastasis. Lymphatic leak is considered a self-limiting complication which subsides within 2 weeks.

Chyle leak following extensive retroperitoneal lymphadenectomy usually resolves spontaneously without causing significant ascites.<sup>9</sup> The loss of lymph rich in protein, triglycerides cause dehydration, poor nutrition and weak immune system. It prolongs the duration of hospital stay for patients as well as increases the chances of infection.<sup>10</sup> A significant collection of lymph, can cause compression of vital structures including ureteric obstruction.

Despite the growing technological advances in medicine, the management of lymphatic leak is not standardised. There were no definite guidelines available in the literature. Conservative management is successful in up to 75% of cases. The diet advised in the management of chylous ascites is high protein, low fat diet comprising medium chain triglycerides (MCT).<sup>11</sup> They are directly absorbed in the intestine and gets transferred to the liver thereby reducing the lymph flow. MCT diet can cause abdominal distension because of its high osmolality. The commonly used MCT is coconut oil which is readily available.

In patients who fail to respond to MCT diet, total parenteral nutrition is initiated which reduces the lymph flow due to complete bowel rest. Orlistat reduces the absorption of dietary triglycerides due to inhibition of the enzyme lipase and has been tried in managing chylous ascites.<sup>12</sup> The somatostatin analogue octreotide lowers the portal pressure as well as pancreatic exocrine secretion which decreases fat absorption thereby limiting lymph flow. The sympathomimetic drug etilefrine contracts the smooth muscles of the thoracic duct thereby resulting in reduced lymph flow causing healing of the chyle leak.<sup>13</sup>

If dietary and medical measures fail, it is advised to do lymphangiography with high fat diet to localise the site of leak followed by embolization. Embolization is done by percutaneous glue injection into a nearest lymph node or the leakage site.<sup>14</sup> The amount of lymph leak post procedure should be monitored and the drain can be removed once the lymph leak drops below 200 ml.

In post-operative chyle leak patients with failure of all conservative measures, surgical intervention is the last resort. The indications for surgical intervention include Chyle leak >1000 ml/day for more than 5 days or leak persisting for more than 2 weeks despite best medical management.<sup>15</sup> After identification of the leak in lymphoscintigraphy, suture ligation of the lymphatics can resolve the leak. If the leak site is not visualised on imaging, suturing of the retro aortic tissues can stop the leak. Peritoneovenous shunt is an option for refractory lymphatic leakage when all other treatment options fail and this procedure has increased risk for serious complications like sepsis, air embolism and shunt occlusion. In cases of failure to identify the leak site, fibrin glue is used widely to seal all potential leakage sites.

In laparoscopic surgeries it is necessary to coagulate the lymphatic channels adequately to reduce chyle leak. The treatment option should be individualised for each patient. The best option in preventing chyle leak is meticulous ligation of all large lymph vessels during surgery. The key principle in the management of these patients are early detection and appropriate treatment.

## CONCLUSION

Chyle leak is an uncommon complication following hysterectomy. The diagnosis is established by the increased level of triglycerides in the drain fluid. It increases the morbidity of the patient significantly. Conservative measures including MCT diet, total parenteral nutrition and medical measures are successful in 75% of cases. In refractory cases with persistent high output, surgical intervention is warranted. We report this case to emphasize the rarity of this complication following laparoscopic hysterectomy for benign pathology and the successful management of conservative measures.

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