

## Idiopathic chylous ascites incidentally diagnosed during tubectomy operation

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**ABSTRACT :** We present a 25-year-old asymptomatic woman who was found to have incidental chylous ascites during laparotomy for tubectomy. Extensive search did not reveal any underlying disease. With conservative medical management she was cured. Asymptomatic idiopathic or primary chylous ascites is rare.

**Key words:** Congenital chylous ascites, Chyloperitoneum, Primary chylous ascites

**Abbreviations:** IgG, IgM - Immunoglobulins G and M; MCT - medium chain triglycerides

### Introduction

True chylous ascites is diagnosed when the ascitic fluid contains triglycerides more than 110mg/dl. [1] It is caused by the extravasation of milky chyle into the peritoneal cavity. This can occur *de novo* as a result of trauma or obstruction of the lymphatic system. An existing clear ascitic fluid may also turn chylous as a secondary event. Chylous ascites has also been reported after abdominal operations like aortic aneurysm repair, radical gastrectomy, duodenectomy and nephrectomy. [2] In this paper we describe a rare case of asymptomatic chylous ascites incidentally diagnosed during elective tubectomy.

### Case Report

A 25-year-old woman was admitted with a 7 weeks pregnancy. She requested for medical termination of pregnancy and bilateral tubal ligation. Previously she had two normal deliveries with the last childbirth 9 years ago. Five years before she underwent laparotomy for ruptured corpus luteal haemorrhagic cyst.

Following medical termination of pregnancy a minilaparotomy was done for tubectomy. Surprisingly, on opening the abdomen plenty of thick white free fluid was found in the abdominal cavity. Pelvis was examined followed by exploration of the entire gut. Retroperitoneum, liver and spleen were also examined. Abdominal cavity was adhesion free, and there were no signs of any inflammation or leakage of chyle. Tubectomy was performed as scheduled and thorough peritoneal lavage was done. Abdomen was closed after placing an intraperitoneal drain which drained large amount of milky fluid at the rate of 1500-2000 ml per day. (Fig. 1)



Fig. 1 Milky drainage characteristic of chylous fluid

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Computed tomographic (CT) scan of abdomen done post-operatively showed fluid collection in the abdomen. (Fig. 2) Ascitic fluid analysis showed that the triglyceride level was 1706 mg/dl and protein 7.22 gm/dl. Triglyceride ratio between ascitic fluid and plasma was 7:1 confirming the diagnosis of chylous effusion. The fluid cultures were

negative for growth of any organism including acid fast bacilli. Liver and renal function tests as well as serum electrolytes were within normal limits. Leukocyte count was elevated with lymphocytic predominance and serum triglyceride was 246mg/dl. Serum albumin:globulin ratio was reversed (albumin 2.16 gm/dl and globulin 5.32 gm/dl). Antifilarial IgG and IgM as well as Mantoux test were negative. Biochemical and microscopic examination of urine was normal. X-ray chest showed no signs of tuberculosis or other infections.

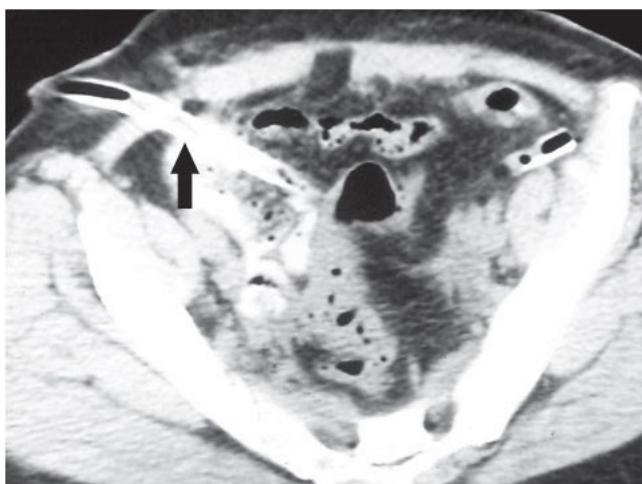


Fig. 2 Postoperative Computed Tomography of the abdomen showing chylous ascites and the drainage tube (arrow)

She was treated with parenteral broad spectrum antibiotics (Piperacillin, Tazobactam) and octreotide. She was given a diet with high protein and medium chain triglyceride. The abdominal drainage gradually decreased from 1500 ml/d to 500 ml/d and later even less. Drainage tube was removed on the 8<sup>th</sup> postoperative day despite daily drainage of 50-80ml of chyle. She recovered in 10 days and was discharged from hospital in stable condition. Finally a diagnosis of primary chylous ascites was made. The ascites resolved completely within 6 weeks as revealed by follow up ultrasonography. Follow-up 4 months later did not show any recurrence of ascites.

## Discussion

Chylous ascites or chyloperitoneum is an uncommon condition that is difficult to treat. It is caused by disruption or obstruction of abdominal lymphatics leading to leakage of the lipid-rich lymph into the peritoneal cavity. [1] Chylous ascites may be divided into primary and secondary based on the underlying etiology. Abdominal malignancy and cirrhosis are the commonest causes of chyloperitoneum in developed countries whereas chronic infections like tuberculosis and filariasis account for the majority of the cases in developing countries. [1]

Primary chylous disorder is most frequently caused by congenital lymphatic dysplasia. Secondary chylous disorders are usually caused by neoplasia, trauma, inflammation, or abdominal surgery. Primary chylous ascites can be congenital or may appear later in life. Congenital chylous ascites in the neonatal period is primarily related to congenital abnormalities of lymphatics. A condition called 'leaky lymphatics' was suggested and delayed maturation of the lacteals was thought to be the underlying mechanism.

The incidence of acquired or secondary chyloperitoneum has increased, probably because of prolonged survival of cancer patients and more aggressive cardiothoracic and abdominal interventions as well as laparoscopic surgery and transplantation [2]. Ascitic fluid triglyceride level greater than 110 mg/dl is diagnostic of chylous ascites. [1] However, gross appearance of the ascitic fluid correlates poorly with triglyceride levels because turbidity is dependant on the size of chylomicrons. Leukocytosis with marked Lymphocytosis is seen occasionally in chylous ascites as it is in our case.

Before resorting to surgical management a more conservative approach is advocated. The use of MCT has been attempted because they can be absorbed directly in the portal system rather than lymphatics [3]. Alliet et al [4] have recommended the use of MCT for at least 10 weeks before labeling the therapy as ineffective. Another treatment modality is nil per oral and total parenteral nutrition (TPN) [5, 6] which decreases the rate of chyle formation without compromising nutrition. Somatostatin analogues have been demonstrated to be effective in reducing lymphorrhagia and may be given a trial. Lymphatic vessels of the intestine have somatostatin receptors. Octreotide, a somatostatin analog, at a dose of 100 mcg subcutaneously thrice daily is used in the management of chylous ascites [7]. Orlistat has also been successfully used as an alternative to low fat diet [8].

Direct lymph vessel ligation is indicated for large lymph vessel leakage demonstrated by radiologic techniques and when medical treatment fails. Peritoneo-venous shunt is sometimes used in refractory chylous effusion but it is less popular because of its high morbidity [9].

Our patient was managed successfully without any further operative intervention. After drain removal there was insignificant collection found on ultrasonography and abdominal paracentesis was not required. Our patient's was successfully treated with piperacillin-tazobactam and postoperative period was uneventful except minimal drain site infection. Long term nutritional supplementation was not required in our case which made our treatment cost effective. The prognosis usually