

Simultaneous Chylothorax and Chylous Ascites Due to Burkitt lymphoma

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Abstract- Lymphoma of burkitt can commonly present as chylothorax and rarely as chyloperitoneum. Here we are presenting a case of a 14-years-old boy with bilateral chylothorax and chylous ascites all together finally diagnosed to have lymphoma of Burkitt as the etiology. To the best of our knowledge, it has been reported very infrequently.

Index Terms- Burkitt lymphoma, chylothorax, chylous ascites, malignant effusion

INTRODUCTION

Chylothorax and chyloperitoneum is uncommon condition characterized by accumulation of chyle in pleural and abdominal cavities respectively [1]. Chyle is a milky appearing lymph fluid consisting of lymphocytes, electrolytes, and triglycerides [2]. The loss of it causing nutritional, immunologic, metabolic, and respiratory complications [3].

Simultaneous accumulation of chyle in cavities, though rare, can be associated with nontraumatic etiologies. By far, malignancy causes (especially lymphoma) represents the most frequent underlying cause [1]. We present a case of both chylous ascites and bilateral chylothorax due to follicular lymphoma of 14 years old boy.

CASE REPORT

A 14-year-old was admitted for abdominal pain associated with abdominal distention and dyspnea, polyadenopathy, all evolving in a context of altered general condition. On admission, body temperature was 37.4 C, heart rate was 117/min, breathing frequency 28/min. On chest auscultation, breathing sound was decreased on both lower lung fields. Abdominal examination revealed shifting dullness. The liver is palpable 2 cm below the costal margin at the midclavicular line. The spleen is not palpable.

Initial laboratory results were as follows: white blood cell count 9.77 10³/mm³ Lymphocytes: 12.2 % 1/19 10³/mm³, Neutrophils: 77.1% 7.43 10³/mm³, Eosinophil 0.2 10³/mm³, hemoglobin 10.7 g/dl, thrombocytes 494 10³/mm³, serum total protein 62 g/l and albumin 47.4. C- Reactive Protein (CRP), Procalcitonin 0.236, LDH 948 UI/l, Beta- 2 Microglobulin : 1.25

mg/l. Profile of the serum protein electrophoresis (SPEP) was compatible with an inflammatory syndrome.

Chest and abdominal CT scan showed a magma of adenopathies associated with thickening of the ileal coves, massive peritoneal and pleural bilateral effusion.

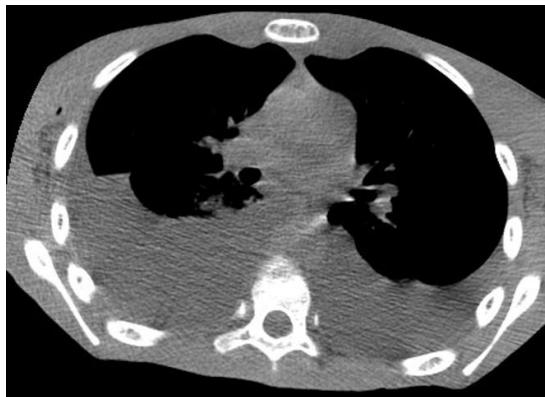


FIGURE 1. Positron emission tomography computed tomography (PET/CT), chest CT scan at the time of diagnosis showing bilateral pleural effusion.

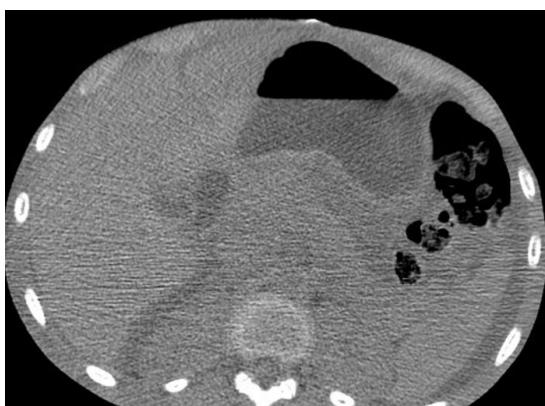


FIGURE 2. Abdominal CT showing ascites.

chylothorax and chyloperitoneum have completely resolved. He is currently undergoing maintenance treatment.

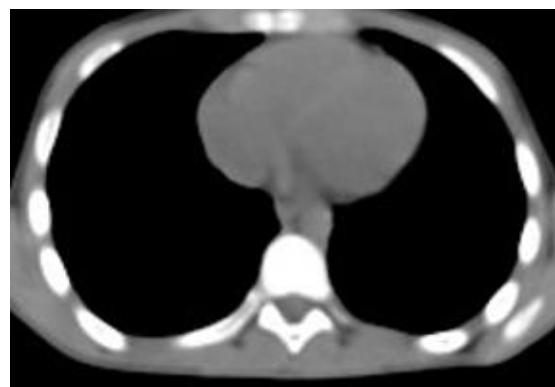


FIGURE 3. Chest CT showing complete resorption of pleural effusion after chemotherapy.

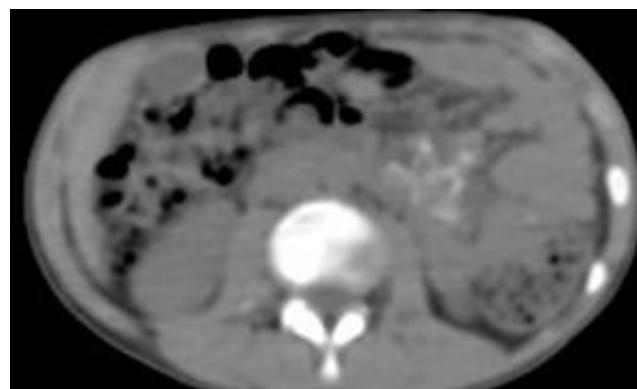


FIGURE 4. Abdominal CT showing resorption of ascites after chemotherapy.

DISCUSSION

Chylothorax and chylous ascites is characterized by chyle in the pleural and peritoneal cavities produced by obstruction and disruption of the lymphatic channel [4]. Diagnosis is confirmed when the triglyceride levels are >110 mg/dL [5] (equivalent to 1.24 mmol/L) in effusions. In cases where triglycerides range between 50 mg/dL and 110 mg/dL, a diagnosis of chylothorax can be made using lipid electrophoresis to detect the presence of chylomicrons [6,7].

The common causes of chyle effusions are malignancy, congenital anomalies, trauma and thoracic surgery. More than 50% of the cases of chylothorax are associated with malignancy, among which, majority are due to lymphoma [8,9]. The reported incidence of the combined occurrence of chylothorax and

chyloous ascites has varied from 9% to 55% of chyloous effusion [10,11]. To our knowledge, no case describe the association of chyloous ascites and bilateral chylothorax secondary to burkitt lymphome has been published to date.

Chyle effusions are associated with high mortality due to severe malnutrition and immunodeficiency due to excessive loss of fat, proteins, vitamins lymphocytes and immunoglobulins [12].

Regarding the management of the chylothorax, it is based on fluid evacuation by setting a chest tube or occasionally drainage by thoracentesis. Decrease lymph production by a low-fat dietary regimen, which contains medium-chain triglyceride (directly absorbed into the blood via the portal system) or to use total parental nutrition (TPN) [13]. Somatostatin or octreotide are also reported to have been effective in decreasing lymph production [14,15].

Surgery is performed in case of chylothorax of surgical origin with a flow exceeding 1 L/d, or after failure of medical treatment and doing magnetic resonance lymphangiography IRM in case of chylothorax of medical origin [16].

The surgical strategy is based on reinforced elective suture of the leak, possibly completed by ligation of the thoracic duct in case

of surgical cause or by pleural symphysis by talcage in case of medical cause.

When the chylothorax is related to a specific lymphatic pathology, this one can be treated electively knowing that an excessive gesture of lymphatic resection or ligation may aggravate the situation, or even decompensate a chyloous ascites.

At most, a pleuroperitoneal shunt may be indicated in case of refractory high flow chylothorax. Embolization of the thoracic duct is an attractive alternative to its surgical ligation, but remains complex and not widely available [17].

Treatment of the underlying lymphoma with chemotherapy led to a significant improvement of chylothorax and chyloous ascites in this case and did not require any surgical intervention or radiation therapy.

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