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RESEARCH ARTICLE

BILATERAL CHYLOTHORAX REVEALING B-CELL LYMPHOCYTIC-LIKE SMALL CELL LYMPHOMA (CASE REPORT)

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Abstract

Chylothorax is defined by the presence of chyle in the pleural cavity. The diagnosis is mainly based on the dosage of triglycerides and/or the detection of chylomicrons in the pleural fluid. The most common causes of chylothorax are traumatic, mainly following surgery. Among the non-traumatic causes, we frequently find tumors and in particular lymphomas. The first-line treatment is conservative and consists of pleural drainage associated with a low-fat diet. We report the case of a 78-year-old man with rest dyspnoea, in whom the pleuropulmonary examination found a bilateral fluid effusion syndrome, the exploratory pleural puncture showed the presence of sero-sanguinous fluid, exudative with a triglyceride levels = 626 mg/dl in the left and 455 mg/dl in the right . The diagnosis of small B-cell lymphocytic-type lymphoma was retained following an anatomopathologic study of the adenectomy specimen.

Introduction:-

Bilateral spontaneous chylothorax is a rarely reported phenomenon in the literature, characterized by accumulation of fluid containing chylomicrons within the pleural cavity due to damage to the thoracic duct [1-2].The main etiology of non-traumatic chylothorax is lymphoma [3].The management of chylothorax should combine medical treatment with dietary adjustment, including surgical treatment if conservative management fails [4].

We report a case of a bilateral chylothorax which made it possible to diagnose a lymphoma B with small cells of the lymphocytic type.

Case Presentation

A 78-year-old man with a history of: high blood pressure on monotherapy with notion of exposure to charcoal, was hospitalized for stage IV dyspnea according to the modified Medical Research Council scale (MmRC), in whom the clinical examination found a conscious patient who was hemodynamically and respiratory stable. with bilateral fluid effusion syndrome, gynecomastia, and right inguinal ADP measuring approximately 2 cm, fixed in relation to the deep plane and painless, all evolving in a context of weight loss at 20 kg/6 months and apyrexia . The chest X-ray showed medium-abundance bilateral pleural effusion. Bilateral thoracocentesis showed an aspect of sero-haematic fluid . The biochemical study of the pleural fluid was in favor of a bilateral chylothorax with a level of triglycerides respectively = 626 and 455 mg / dl. Complementary CT scan revealed diffuse interstitial pneumonitis associated with more marked bilateral pleural effusion on the right, as well as bilateral retro-peritoneal, celio-mesenteric and

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inguinal lymphadenopathy and heterogeneous splenomegaly. The diagnosis of small B-cell lymphocytic-type lymphoma was retained following the anatomopathological study of the adenectomy specimen (inguinal)

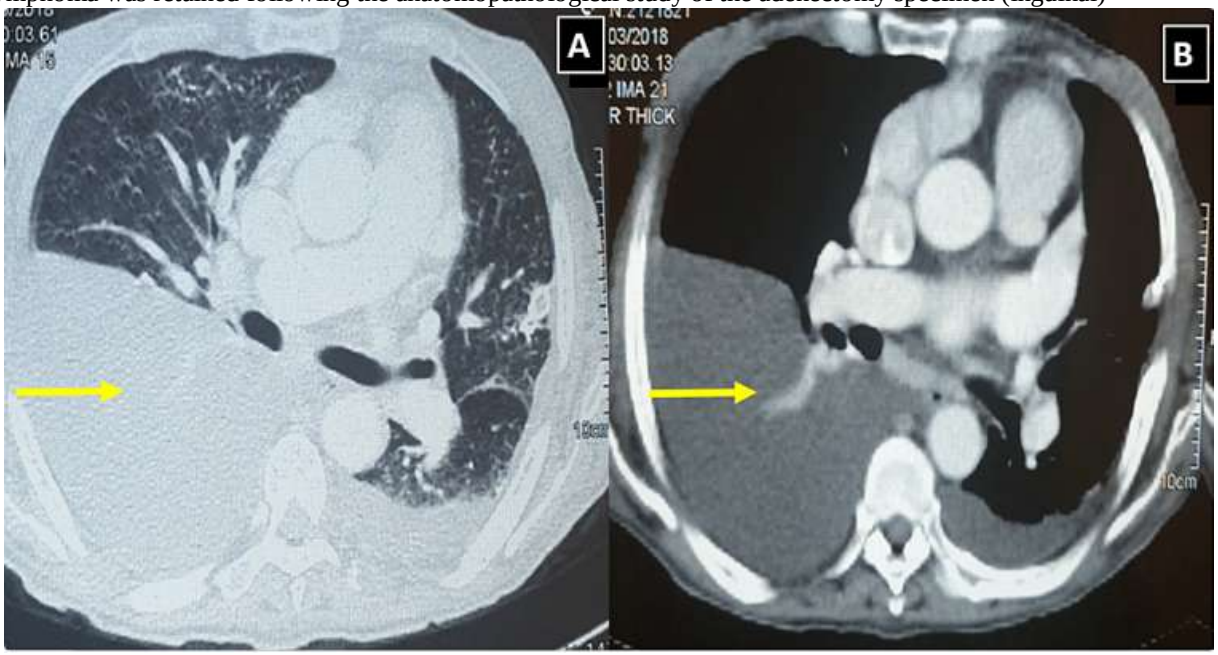

Figure 1:- Thoracic CT scan with contrast medium: Axial sections in parenchymal and medial windows show diffuse interstitial lung disease associated with bilateral pleural effusion (arrows).

Discussion:-

Chylothorax is one of the rarest but most serious causes of pleural effusion [5]. It is encountered mainly in adults (the average age varied from 33 to 64 years), with a slight female predominance [6-7].

It occurs when chyle accumulates in the pleural space. Chyle is a milky, white, opalescent liquid that forms when long-chain triglycerides in the diet are broken down into chylomicrons and very low-density lipoproteins, which are then secreted into the intestinal lymphatic channels. These lymphatic channels join to form the thoracic duct, which carries the chyle and eventually drains it into the left subclavian vein. Any injury to the duct (or its major tributaries) as it travels through the chest cavity can lead to chylous effusion [8]. Also, chylothorax is more common on the left side due to the position of the thoracic duct, while bilateral chylothorax is rare but should always be considered in the absence of trauma [1].

The clinical presentation of chylothorax is not specific: it can be manifested by chest pain, cough, arterial hypotension, a picture of lower respiratory infection or even by dyspnea such as our patient [9].

Chylothorax can occur in patients with lymphoma through two mechanisms. The first is caused by the infiltration of malignancy into the thoracic duct, which makes it rigid and more susceptible to rupture. The second mechanism occurs when there is excessive pressure on the thoracic duct, resulting in the backflow of lymph fluid into the parietal pleura, which then enters the pleural cavity. This pressure can also create collateral canals that widen and open the pleural cavity [10].

Another theory proposes that the lymph fluid in patients with lymphoma and leukemia may have a high viscosity due to the large number of lymphocytes and protein material. This high viscosity exerts tremendous pressure on the lymph vessel walls, making them distended and fragile. Even minor trauma, such as coughing or sneezing, can cause microruptures in these fragile vessels, leading to the leakage of lymph fluid into the pleural cavity [10].

It is important to note that chylothorax is more commonly observed on the left side due to the position of the thoracic duct, but bilateral chylothorax is rare and should always be considered [1].

The diagnosis is based on the study of the pleural fluid, which is often an exudative pleural effusion, where the triglyceride level exceeds 110 mg/dl : mainly in the form of chylomicrons, when the triglyceride level is between 50 and 110, it does not exclude the diagnosis of chylothorax and a lipoprotein electrophoresis to detect chylomicrons is recommended, the macroscopic appearance may be: lactescent (53%), sero-thematic, or hematic, depending on the patient's nutritional status and etiology. Cytology may be positive in 40% of cases [11-12]. In our case, it was a 78-year-old male subject - contrary to the data found in our literature review - and in whom pleural puncture had revealed hematic-looking liquid on both sides (right and left) with triglyceride levels = 626 and 455 mg/dl respectively: Bilateral involvement is rarely encountered.

It is radiologically impossible to distinguish chylothorax from a pleural effusion of another etiology, while the thoraco-abdominal CT scan can reveal certain etiologies; imaging of the lymphatic pathways should be indicated when CT is not profitable: lymphoscintigraphy, lymphangiography and MR lymphangiography are other useful imaging toolsis useful in the diagnosis of lymphatic flow abnormalities according to our literature review [12-13].

The etiologies of chylothorax can be grouped into two categories: Traumatic and non-traumatic: the most frequent, dominated by lymphomas and represents 10% of cases, then tuberculosis, amyloidosis, sarcoidosis, plunging goiter, deep vein thrombosis, lymphangioleiomatosis and Gorham's disease [5-9,11].

Therapeutic management depends on the etiology, and is initially based on pleural drainage to allow lung re-expansion, as well as on the diet without fatty acids of more than 12 carbons to reduce chylous leak and decrease intestinal secretions, thus minimizing loss of protein, fat, lymphocytes and fluid [5].

Octreotide and somatostatin are used in medical treatment to reduce the formation of chylous fluid by inhibiting the physiological functions that regulate the gastrointestinal tract and pancreas [14]. Surgical treatment like pleurodesis, Thoracic duct ligation/embolization is indicated when conservative treatment fails. And for forms refractory to surgery, low-dose mediatisnal radiotherapy may be beneficial [5-9,11-12].

Conclusions:-

Bilateral chylothorax is a rare condition, usually results from obstruction to or disruption of the thoracic duct. The diagnosis of chylothorax is based on the analysis of pleural fluid, its etiologies are classified into two categories: traumatic ,non-traumatic, and the most common causes of the nontraumaticchylothorax are malignancies especially lymphomas.

The initial management of chylothorax is pleural drainage, dietary modifications along with the treatment of underlying etiology.

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