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REVIEW

Persistent benign pleural effusion☆

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Tuberculous empyema;
Benign asbestos pleural effusion;
Yellow nail syndrome;
Tunneled pleural catheter

Abstract In this narrative review we describe the main aetiologies, clinical characteristics and treatment for patients with benign pleural effusion that characteristically persists over time: chylothorax and cholesterol effusions, nonexpansible lung, rheumatoid pleural effusion, tuberculous empyema, benign asbestos pleural effusion and yellow nail syndrome.

PALABRAS CLAVE
Quilotórax;
Derrame de colesterol;
Pulmón atrapado;
Derrame pleural reumatoide;
Empiema tuberculoso;

Derrames pleurales benignos persistentes

Resumen En esta revisión narrativa se describen las principales etiologías, características clínicas y tratamiento de los derrames pleurales de naturaleza benigna que, característicamente, pueden persistir en el tiempo: quilotórax y derrames de colesterol, pulmón

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Derrame pleural asbestósico benigno;
Síndrome de las uñas amarillas;
Catéter pleural tunelizado

no expansible, derrame pleural reumatoide, empiema tuberculoso, derrame pleural asbestósico benigno y síndrome de las uñas amarillas.

Pleural effusion (PE) is one of the most common processes facing medical specialists, particularly pulmonologists, internists and thoracic surgeons. Typically, malignant PE is persistent over time and, when it causes dyspnea, requires specific palliative procedures such as therapeutic thoracentesis, pleurodesis and the insertion of tunneled pleural catheters (PleurX®).[1] However, there are various benign diseases that produce chronic PE,[2] which are often difficult to treat and diagnose due to their rarity. These diseases are the focus of this review. We will not consider benign PEs that generally resolve in a few days or weeks but are occasionally persistent or recurrent due to a lack of response to conventional therapy (e.g., cardiac PE and hepatic hydrothorax).

Chylothorax and cholesterol effusions

Both chylothorax and cholesterol PEs (also known as chyliform PEs or pseudochylothorax) are characterized by their richness in lipids: chylomicrons/triglycerides in the first case and cholesterol in the second.[3] The chylothorax involves a chyle leak due to disruption or blockage of the thoracic duct or its branches. The causes of chylothorax can be classified into four categories[4,5]: (1) surgeries (40%), such as the repair of heart disease and congenital diaphragmatic hernias, esophagectomy and lung resections with mediastinal lymphadenectomy; (2) tumors (30%), mainly lymphomas; (3) miscellaneous processes, such as cirrhosis (transdiaphragmatic passage of chylous ascites), superior vena cava syndrome and acquired lymphatic disorders (e.g., lymphangioleiomyomatosis, yellow nail syndrome [YNS]); and (4) idiopathic chylothorax (10%), although ''trivial'' trauma should be ruled out (cough, hiccups, intense sneezing) before considering this condition.

Cholesterol PEs, which are much more uncommon than chylothorax, are not related to any lymphocytic anomaly but rather with long-standing pleural collections (>5 years in 90% of patients). In 80% of cases, these PEs are associated with pleural thickening or calcification[6] in which the cholesterol is generated by lysis of erythrocytes and leukocytes. The two most common etiologies of cholesterol PE are tuberculosis (which should be differentiated from tuberculous empyema, described later in this article) and rheumatoid arthritis.[3,4]

Patients with voluminous chylothorax usually have dyspnea but not fever (except in the context of B symptoms of a lymphoma) or chest pain, due to the noninflammatory nature of chyle.[7] Depending on the location of the thoracic duct lesion, chylothoraces are unilaterally left or right, although 20% of cases are bilateral.[5] Chylothorax should be suspected with any patient with pleural fluid (PF) of milky appearance (Fig. 1) or with persistent or recurring PE of uncertain cause, particularly if there are predisposing factors (e.g., cardiothoracic surgery, lymphoma, cirrhosis and lymphangioleiomyomatosis).

It is important to consider that both chylothorax and cholesterol PE have the classic milky appearance in only 40–50% of cases.[3,7] PF analysis of a chylothorax shows an exudate (85%; the transudate should lead to a suspicion of cirrhosis), predominantly lymphocytic (80%) and with triglyceride concentrations >110 mg/dL (85%).[8] The finding of intermediate triglyceride values (50–110 mg/dL) requires the demonstration of the presence of chylomicrons in the PF, which would be a definitive test of chylothorax.[5] Cholesterol PE are exudates, often of lymphocyte predominance (60%), with a ratio of cholesterol to triglycerides in the PF > 1 (97%), cholesterol crystals visible under a polarized light

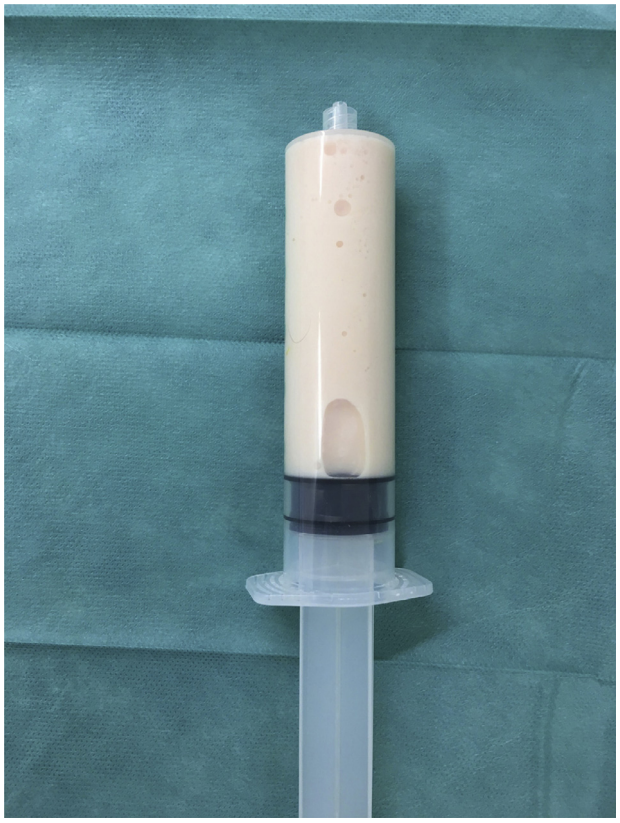

Figure 1 Typical milky appearance of a chylothorax.