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CASE REPORT

Bilateral spontaneous chylothorax after severe vomiting in children

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KEYWORDS
Chylothorax;
Vomiting;
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Scintigraphy;
Child

Abstract

Objective: To report the case of a child with bilateral chylothorax due to infrequent etiology: thoracic duct injury after severe vomiting.

Case description: Girl, 7 years old, with chronic facial swelling started after hyperemesis. During examination, she also presented with bilateral pleural effusion, with chylous fluid obtained during thoracentesis. After extensive clinical, laboratory, and radiological investigation of the chylothorax etiology, it was found to be secondary to thoracic duct injury by the increased intrathoracic pressure caused by the initial manifestation of vomiting, supported by lymphoscintigraphy findings.

Comments: Except for the neonatal period, chylothorax is an infrequent finding of pleural effusion in children. There are various causes, including trauma, malignancy, infection, and inflammatory diseases; however, the etiology described in this study is poorly reported in the literature.

PALAVRAS-CHAVE
Quilotórax;
Vômito;
Ducto torácico;
Cintilografia;
Criança

Quilotórax bilateral espontâneo após vômitos excessivos em criança

Resumo

Objetivo: Relatar o caso de uma criança com quilotórax bilateral devido a etiologia pouco frequente: lesão do ducto torácico após quadro de vômitos excessivos.

Descrição do caso: Menina, sete anos, apresentava edema facial crônico iniciado após quadro de hiperemese. À avaliação, também apresentava derrame pleural bilateral, com líquido quiloso

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obtido na toracocentese. Após extensa investigação clínica, laboratorial e radiológica da etiologia do quilotórax, foi definido ser secundário a lesão do ducto torácico por aumento da pressão intratorácica pela manifestação inicial de vômitos, corroborado por achados de linfocintilografia.
Comentários: À exceção do período neonatal, o quilotórax é achado infrequente de efusão pleural em crianças. As causas são diversas, incluindo trauma, neoplasia, infecção e doenças inflamatórias; contudo, etiologia como a aqui descrita é pouco relatada na literatura.

Introduction

Chylothorax is defined as lymph accumulation in the pleural space, caused by injury to the thoracic duct and is a rare cause of pleural effusion in children.[1,2] It can lead to significant respiratory morbidity and has an extensive list of causes, with great diagnostic difficulty.[1,2] This study aims to report the case of a child with spontaneous bilateral chylothorax.

Case description

Seven-year-old white female patient, referred due to suspected diagnosis of systemic lupus erythematosus. She had a five-month history of sudden-onset vomiting and self-limited abdominal bloating after ingestion of large amounts of chocolate; subsequently, she started to show insidious and permanent chronic swelling of face. Three months after symptom onset and extensive evaluation of allergies, she was submitted to a chest and abdomen computed tomography, which showed abdominal lymphadenomegaly and bilateral pleural effusion. Chest drainage was performed in another service and the presence of milky pleural fluid was reported. She also underwent laboratory evaluation at the original service and most results were within normal values (including whole blood count, renal function, C3, C4, rheumatoid factor, anti-Sm, anti-Ro, anti-La, anti-ds-DNA), except for a positive antinuclear antibody, at a titration of 1:640, nuclear speckled pattern.

At the first outpatient visit in our service, the patient underwent a new chest radiography (Fig. 1A), which showed recurrence of bilateral pleural effusion. A thoracentesis was performed on the right, of which milky white fluid showed the presence of 1.120mm^3 of leukocytes (96% lymphocytes, 3% neutrophils, 1% plasma cells); 710mm^3 of red blood cells; 3.7g/dL of protein; 87mg/dL of Glucose; 2.855mg/dL of triglycerides. The child was hospitalized, kept in fasting and started parenteral nutrition therapy. After 21 days without reduction in the chylothorax volume, bilateral thoracic drainage was performed and 450mL of chylous secretion was removed from the right and 300mL from the left side. The drains were maintained in water seal, with a marked reduction in eyelid edema. Three days after the draining she was started on a low-fat diet. The drains were removed after 25 days.

Serum levels of vascular-endothelial growth factor-D (VEGF-D), a marker which, at high levels, is useful for the diagnosis of lymphangioleiomyomatosis, was requested and the result of 125pg/mL, a little above the reference value (31–86pg/mL), ruled out that possibility. She underwent a lymphoscintigraphy (Fig. 2) with intradermal administration of the radiopharmaceutical in the instep and subsequent uptake of the radiotracer images that showed its extravasation in the topography of the thoracic introit bilaterally, compatible with thoracic duct lesions, secondary

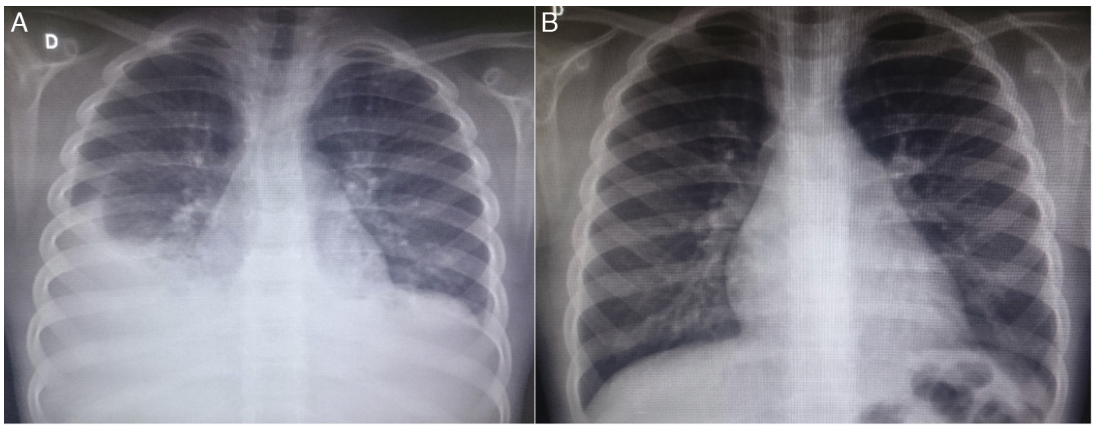

Figure 1 Chest radiography images of the patient in the posteroanterior view; A–at patient admission, costophrenic sinus obliteration is observed bilaterally, with pleuropulmonary opacity to the right; B–six months after discharge, during an outpatient consultation, the radiography shows no alterations.

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