Pseudotumoural chest X-ray pattern in a patient presenting with heart failure

Insuffisance cardiaque avec aspect radiologique pseudotumoral

David Attia\textsuperscript{a},*, Nicolas Mansencal\textsuperscript{a}, Thierry Gendry\textsuperscript{b}, Pascal Lacombe\textsuperscript{c}, Olivier Dubourg\textsuperscript{a}

\textsuperscript{a} Department of cardiology, university hospital Ambroise-Paré, Assistance publique—Hôpitaux de Paris, université de Versailles—Saint-Quentin (UVSQ), 9, avenue Charles-de-Gaulles, 92100 Boulogne, France
\textsuperscript{b} Department of pneumology, university hospital Ambroise-Paré, Assistance publique—Hôpitaux de Paris, université de Versailles—Saint-Quentin (UVSQ), Boulogne, France
\textsuperscript{c} Department of radiology, university hospital Ambroise-Paré, Assistance publique—Hôpitaux de Paris, université de Versailles—Saint-Quentin (UVSQ), Boulogne, France

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A 56-year-old man was admitted for dyspnoea (New York heart association class IV) associated with asthenia, weight loss and bilateral pleural masses on chest X-ray (Fig. 1A). He had a history of smoking, chronic alcoholic consumption and exposure to asbestos at work. Previously, several transapical punctures and biopsies under computed tomography scan had been performed unsuccessfully. Physical examination at admission showed a respiratory rate of 25 breaths/min, a pulse of 107 beats/min and blood pressure of 100/70 mmHg. A systolic murmur was found, suggesting mitral regurgitation (grade 2/6), whereas pulmonary auscultation was strictly normal. The electrocardiogram demonstrated a complete left bundle branch. Assessment of biological markers revealed only an increase in B-type natriuretic peptide (BNP) (1910 pg/ml), without any biological inflammatory syndrome. Transthoracic echocardiography revealed a pattern of dilated cardiomyopathy (end-diastolic left ventricle diameter, 36 mm/m²; left ventricular ejection fraction, 20%; Fig. 1B) with functional mild mitral regurgitation and pulmonary hypertension (systolic pulmonary arterial pressure, 50 mmHg). Coronary angiography revealed no significant coronary disease. After initial treatment with intravenous diuretics and an angiotensin converting enzyme inhibitor, the dyspnoea disappeared and the masses on chest X-ray (Fig. 1C) and the BNP decreased (815 pg/ml).

* Corresponding author. Fax: +33 149095344.
E-mail address: david.attias@aphp.fr (D. Attias).
Figure 1.  A. Pseudotumoural pattern of heart failure with bilateral pleural masses, decreasing dramatically after diuretic treatment. C. Transthoracic echocardiography. B. Showed left ventricular dilatation and severe systolic dysfunction, whereas pulmonary computed tomography scan. D. Showed pleural plaques due to asbestos leading to fibrosis and encystment of transudative pleural effusion.

Pleural masses constituted transudative pleural effusions secondary to the severe left ventricular systolic dysfunction. This atypical radiological presentation was facilitated by fibrosis associated with benign pleural plaques due to exposure to asbestos (Fig. 1D, white arrow), leading to pleural encystment. This unusual aspect of heart failure on chest X-ray ought to be recognized to avoid treatment delay.