Epidermoid Cyst—A Rare Mediastinal Mass

Zubin Nalladaru · Musa Mbahi · Andre Wessels

Received: 18 November 2013 / Accepted: 21 February 2014 / Published online: 5 March 2014
© Association of Surgeons of India 2014

Abstract A 39-year-old male was referred to our service for treatment of an asymptomatic mediastinal mass. The mass was detected on a routine pre-employment chest X-ray. CT scan showed a well-defined soft tissue mass measuring $7.5 \times 5.5 \times 5.3$ cm in close relation to the right border of the heart. A CT-guided biopsy proved to be inconclusive as necrotic tissue was obtained. At exploratory thoracotomy, a well-defined cyst was found attached to the right side of the pericardium. The cyst was totally excised and sent for histopathological examination which came back with a surprise diagnosis of epidermoid cyst.

Keywords Mediastinum · Epidermoid cyst

Introduction

Of all mediastinal masses, 15–20 % occur as cysts [1] and can occur in any compartment of the mediastinum. They are well-defined epithelium-lined lesions that contain fluid. They include bronchogenic cysts, esophageal duplication cysts, pericardial cysts, neurenteric cysts, thymic cysts, cystic teratoma, and lymphangioma. Epidermoid cysts occur very rarely in the mediastinum with few anecdotal cases reported in world literature. Most epidermoid cysts are situated in the posterior mediastinum [2]. We report an extremely rare case of an

epidermoid cyst situated in the anterior mediastinum and attached to the right side of the pericardium.

Case Report

A 39-year-old asymptomatic man was referred to our service for evaluation of a mediastinal mass found incidentally on a pre-employment chest X-ray [Fig. 1a]. Further evaluation with CT scan showed a well-defined, smooth-outlined soft tissue mass in the anterior mediastinum measuring $7.5 \times 5.5 \times 5.3$ cm. The lesion was closely related to the right heart border [Fig. 1b]. Lung fields were normal. There was no mediastinal lymphadenopathy. A CT-guided biopsy was attempted but proved inconclusive as only necrotic tissue was obtained. A decision to surgically excise the mass was made.

The chest was entered through a small left anterior thoracotomy. The cystic mass was found to be attached to the right side of the pericardium [Fig. 2a]. There was no attachment to the right lung, diaphragm, or any intra-spinal connection. The mass was separated from the pericardium carefully and excised. Histopathology revealed an epidermoid cyst [Fig. 2b].

Discussion

On histopathology, a typical epidermoid cyst is lined with stratified squamous epithelium that contains a granular layer and is lined with keratinous material that often has a laminated arrangement. The keratinized epithelium differentiates it from bronchopulmonary, bronchoenteric, and esophageal duplication cysts. The essential difference between a dermoid cyst and an epidermoid cyst lies in the presence of skin appendages

Z. Nalladaru (✉) · A. Wessels
Department of Cardiothoracic Surgery, Mediclinic City Hospital,
Dubai Health Care City, PO box 505004, Dubai, United Arab
Emirates
e-mail: zubin.nalladaru@mediclinic.ae

M. Mbahi
Department of Pathology, Mediclinic City Hospital, Dubai, United
Arab Emirates

Fig. 1 **a** Chest X-ray showing abnormal configuration of the right heart border (*arrow*). **b** CT scan showing a mass in anterior mediastinum closely related to the right heart border

Fig. 2 Intra-operative picture with mass held in forceps. **a** The excised mass (*inset*). **b** Histopathology showing keratinized squamous epithelium

(e.g., sebaceous glands, hair follicles) within the wall of the dermoid cyst and the absence of these features in the epidermoid cyst. Anterior mediastinal epidermoid cysts, as in the present case, are very rare, and very few cases have been reported. A PubMed search revealed only two other cases of mediastinal epidermoid cysts. The first one was an epidermoid cyst which was mistaken as a left-sided subpulmonic effusion [3]. During surgery, it was found to be attached to the pericardium just like in the case under discussion. The other case was misdiagnosed as a loculated pericardial effusion [4].

References

1. Oldham HN Jr (1971) Mediastinal tumors and cysts (collective review). *Ann Thorac Surg* 11:246–275
2. Scarrow AM, Levy EI, Gerszten PC, Kulich SM, Chu CT, Welch WO (2001) Epidermoid cyst of the thoracic spine: case history. *Clin Neurol Neurosurg* 103:220–2
3. SS I, NourEldeen NG, Usama AH, Mohammed MEA (2003) Interact Cardiovasc Thorac Surg 2:364–366
4. Sharma NC, Anshu S, Manish B (2008) *Indian J Radiol Imaging* 18: 319–321