Indian J Thorac Cardiovasc Surg (October–December 2016) 32(4):266–268
DOI 10.1007/s12055-016-0454-1

CASE REPORT

Localised malignant pleural mesothelioma mimicking a pseudo-tumour in a HIV-positive patient: a rare case report

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Received: 28 February 2016 / Accepted: 13 September 2016 / Published online: 18 November 2016

Abstract Localised malignant mesothelioma (LMM) is an extremely rare malignancy of the pleura. Very few case reports have been published and its classification and characteristics are not well established owing to the rarity of its occurrence. LMM was defined as a distinct disease entity among pleural tumours by the WHO in 2004 Travis et al., 2004. We present a young HIV-positive male, who presented with a mass in the lower lobe of the left lung suspected pre-operatively to be inflammatory a pseudo-tumour. Complete surgical resection of the mass was done and biopsy and immunohistochemistry revealed it to be LMM. We try to highlight the rare occurrence of LMM in a young, immunocompromised patient with no history of exposure to asbestos or irradiation.

Keywords Localised malignant mesothelioma · Pleura · Malignant mesothelioma

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Introduction

Localised malignant mesothelioma (LMM) is an uncommon circumscribed tumour of the serosal membranes with the microscopic appearance of malignant mesothelioma, but without any evidence of diffuse spread [1]. Only 45 (pleura, 39; pericardium, 2; peritoneum, 4) confirmed cases of LMM have been reported in the literature [2]. Therefore, localised malignant mesothelioma is a rare entity. These tumours are focal and well circumscribed rather than progressively encasing the lung. Progress towards understanding the natural history of LMM has been slow due to its rarity and the historical problems defining its origin and nomenclature [1, 3]. The biologic behaviour of such tumours is difficult to predict, but some patients survive disease-free for a long time after surgical excision [4].

Case report

A 28-year-old Indian male patient presented with history of dull, constant aching pain in the left side of the chest past 3 weeks. He was diagnosed as HIV sero-positive 2 months ago and was started on oral anti-retroviral-treatment (efavirenz 600 mg, lamivudine 300 mg, tenofovir 300 mg once a day). He gave history of smoking bidis about 3–4 packs a day for the past 7 years. He was a driver by occupation and did not have occupational or environmental history of asbestosis exposure. He had no history of fever, cough, or hemoptysis. There was no history of weight loss or loss of appetite. Physical examination revealed clubbing of fingers and slight pallor. Respiratory system examination revealed reduced breath sounds in the left basal region. Plain radiography of the chest revealed a rounded mass in the lower zone of the left lung [Fig. 1]. Contrast enhanced computerised tomography

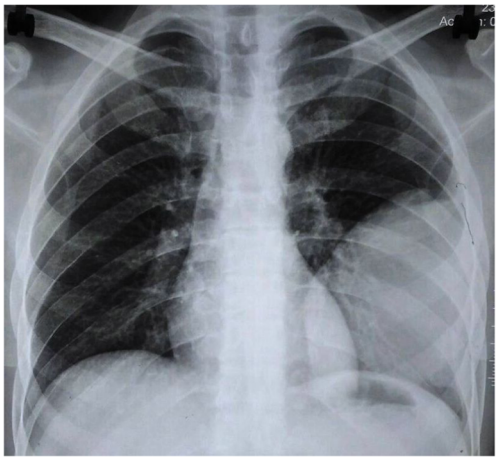

Fig. 1 Pre-operative plain radiograph

(CECT) of the chest showed a well-defined, heterogeneously enhancing, pleural-based mass lesion (6.4 × 10.2 cm) seen involving the left lobe lung parenchyma, with no hilar or mediastinal lymphadenopathy. A PET-CT scan was done which showed large FDG avid heterogeneously enhancing pleural-based soft tissue density mass lesion in the left lung lower lobe (10.8 × 7.1 cm; SUV max 9.8) indenting the diaphragmatic pleura [Fig. 2]. An image-guided core-cut biopsy was done pre-operatively, reported as inflammatory mass. Pre-operative bronchoscopy showed no obstruction/mass in the tracheobronchial tree.

His haemoglobin was 12.1 g, Total leukocyte count was 8.62, CD4 count was 298. Blood urea was 45.92 and serum creatinine was 0.68. Liver function parameters was within normal limits. His sputum examination was negative for acid-fast bacilli (AFB). The patient was worked up for thoracotomy and excision of the mass. We performed a left posterolateral thoracotomy. There was dense pleural-based mass measuring 7 × 11 cm, encasing the left lower lobe, indenting the diaphragm. En bloc resection of the tumour was done, including the left lower lobe and part of the diaphragm (central part). Repair of the diaphragm was done. Histopathology report showed small round cells with glandulo-papillary pattern, with focal areas of sarcomatoid appearance. Immunohistochemistry analysis was done and showed positivity for calretinin, WT-1, CK-5/6 and CK-7 and negative for CEA, CK-20, TTF, CD-56 and napsin suggestive of mesothelioma. The patient recovered well after surgery [Fig. 3]. The intercostal drain was removed on the third post-operative day, and the patient was discharged on the ninth post-operative day. He was advised six cycles of cisplatin-pemetrexed monthly adjuvant chemotherapy. He has been relapse free after two cycles of chemotherapy.

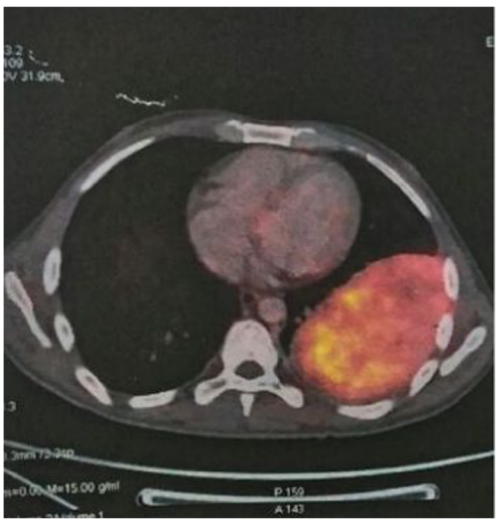

Fig. 2 PET-CT

Discussion

The term "localised mesothelioma" has been used in the past to describe a variety of primary localised pleural and peritoneal neoplasms, such as solitary fibrous tumour, well differentiated papillary mesothelioma, diffuse malignant mesothelioma, and, rarely, other neoplasms such as synovial sarcoma and adenocarcinoma [4]. The first accurate pathologic description of mesothelioma that classified this disease as either localised or diffused was published in 1931 by Klemperer and Rabin [5]. Histologically, most seem to be predominantly fibrous, but with varying cellularity. Epithelium type predominates, while biphasic or purely sarcomatous forms are infrequent [1, 6, 7]. Evidence of a significant association with asbestos exposure has not been recorded [1, 4]. LMM of the pleura is associated with a longer survival than that generally reported for the diffuse form, even for cases undergoing surgery in combination with other therapy. In appropriate patients with LMM, a multimodality treatment such as local excision with pleurectomy/decortication and adjuvant chemotherapy seems to be reasonable [4, 8]. A pooled analysis of available data showed that LMM has an overall better prognosis than

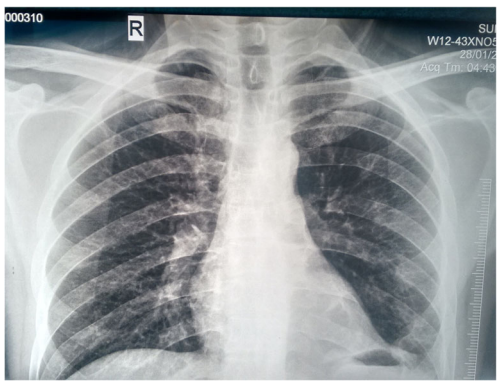

Fig. 3 Post-operative plain radiograph

diffuse MPM, with a median survival of 29 months in LMM compared with 8–14 months in diffuse MPM [9].

In conclusion, LMM is an extremely rare malignancy of the pleura. As it is localised, it is amenable for R0 or R1 resection if detected early. Overall, it has better median survival than diffuse mesothelioma. Our case is a rare presentation of LMM in an immunocompromised young male without the classical history of exposure to asbestosis. Further research is needed to determine the association of mesothelioma with immune deficiency.

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