Learning Point for Clinicians

Malignant melanoma (MM) should be considered in the differential diagnoses of young patients with a pleural mass. Early identification is crucial in the management of this disease. Positron emission tomography computed tomography (PET-CT) is both sensitive and specific in identifying MMs.

A 29-year-old male Caucasian presented with a 5-month history of left anterior chest pain and dyspnoea. There was no associated cough, haemoptysis, fever, weight loss or night sweats. He was a never smoker with no previous exposure to asbestos.

On general examination, he had multiple freckles and tattoos. His lower left chest wall was tender on palpation but no other abnormalities were present. Chest X-ray revealed a lobulated pleural-based soft tissue mass at the left mid-zone. CT showed lobulated left posteromedial pleural thickening with medial extension and encroachment on the left T5/6 neural foramina. PET-CT confirmed CT findings and revealed intense metabolic activity (SUVmax of 11.8 g/ml) within the pleural-based masses but no evidence of abnormal metabolic activity elsewhere (Figure 1a). Ultrasound-guided biopsy revealed cells with irregular nuclei and prominent nucleoli with ample eosinophilic cytoplasm. Some cells contained brown pigment and lesional cells were positive for Melan A and HMB45 (Figure 1b).

The overall histological appearances were in keeping with MM. The patient was negative for BRAF mutation. He underwent a left thoracotomy with chest wall and pleural resection. Negative fluorodeoxyglucose uptake elsewhere indicated that there was a chance of complete resection with an opportunity for a long disease-free period. A haemorrhagic tumour with dark pigmentation was removed but complete resection was not possible due to spinal metastatic deposits. He received post-operative radiotherapy but subsequently relapsed 2 months later with metastatic spread to bones and supraclavicular fossa lymph nodes. Unfortunately, he failed to respond to chemotherapy (dacarbazine and cisplatin) and died 6 months after initial diagnosis. We were unable to obtain consent for a post-mortem examination.

MM is one of the commonest cancer in young adults aged 25–49.1 It can metastasize to the lung and more rarely, the pleura.2 Primary pleural melanoma is extremely rare and was first described in 19783 with only a handful of cases subsequently reported. Jensen and Egedorf have proposed criteria for diagnosing primary pulmonary MM: no previously removed ocular or pigmented skin tumours, solitary tumour from surgery, tumour morphology compatible with a primary tumour, no demonstrable MM in other organs during surgery and autopsy without primary MM elsewhere.4
In summary, although rare, primary MM should be considered when encountering young patients with a pleural mass. Moreover, this case adds to the paucity of described reports in the literature and highlights the use of PET-CT as an assessment tool as it is extremely sensitive (94%) and specific (83%) in identifying MM.\(^5\)

References