Primary malignant melanoma: a rare cause of mediastinal mass

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Abstract  A case of primary malignant melanoma in the mediastinum presenting as recurrent laryngeal nerve palsy is reported. Tissue biopsy at mediastinotomy yielded a diagnosis of malignant melanoma. The mass was fixed to the left aspect of the trachea and to the upper border of the left main bronchus and could not be removed surgically. Further extensive clinical and radiological investigations revealed no evidence of tumor elsewhere in the body.

Keywords  Primary malignant melanoma · Mediastinal mass · Mediastinoscopy

Introduction

Melanomas are malignant tumors found primarily as a skin lesion, accounting for 2% of skin tumors. They frequently metastasize to the liver, lung, brain, and bone before the primary lesion in the skin is clinically evident. With the exception of retinal melanoma, there are few reports of malignant melanoma occurring as primary lesions in parts of the body other than the skin. However, primary malignant melanoma has been reported from the following sites: brain, bronchus, rectum, gastrointestinal tract, and esophagus. Early, accurate diagnosis of the primary site would influence both the management and prognosis of the treatment. We report this case of malignant melanoma in the mediastinum, which after extensive investigations proved to be the primary site.

Case

A 51-year-old Caucasian man with previously good health presented with 3 weeks' history of progressive hoarseness of voice. There was no history of dysphagia or weight loss, and he did not have any evidence of respiratory infection or cough. He was a heavy smoker. There was no significant past medical history or family history suggestive of tumors. On examination, there were no significant physical findings.

He was initially referred to an otolaryngology specialist. On investigation, chest radiograph revealed a possible mass in the mediastinum, and computed tomography (CT) (Fig. 1) showed a 3-cm soft tissue mass in the aortopulmonary window abutting the left side of the trachea. Subsequently, he underwent mediastinoscopy, and histopathology of the tissue biopsies showed evidence of melanin pigment with immunohistochemistry stains positive with S-100, melan A, and HMB45 (Fig. 2). MNF116 and AE1/AE3 were negative.

He was further investigated for primary or secondary deposits in the liver, brain, and elsewhere with ultrasonography and CT of the head, neck, and abdomen, which were all reported as normal. The patient was referred for a dermatology opinion to rule out skin lesions. None was found. Proctoscopy examination was also normal, as were bronchoscopy and upper gastrointestinal endoscopy.
Based on the investigations, it was concluded that the mediastinum was the primary site of the tumor with no secondary deposits. He subsequently underwent partial sternotomy with the view of complete resection, but intraoperatively the tumor mass was densely adherent to the lateral wall of the distal trachea. The procedure was abandoned, as it was impossible to have a complete resection of the tumor without performing an extremely extensive, risky operation.

Postoperatively, the patient was referred to the oncology team for radiotherapy. He was treated with one cycle of 20 fractions of radical radiotherapy without serious complication. Follow-up CT of the abdomen and positron emission tomography scans revealed evidence of a new mass in the right adrenal gland with the possibility of metastasis of the tumor. In view of his new finding, his treatment was altered to 3 cycles of palliative chemotherapy consisting of dacarbazine and cisplatin. His recent CT showed increasing size of his left adrenal mass with evidence of new lesions in the left kidney and spleen. There was also clinical evidence of two palpable lumps on the anterior abdominal wall. His chemotherapy had been stopped owing to the significant progression of the disease. He is clinically well, however, with no symptoms of hoarseness or breathing difficulties. He had been currently discharged with no further oncology follow-up.

**Discussion**

Melanoma has been on the rise worldwide, with Scotland being no exception. Some studies show an incidence of 10.6 per 10^5 population for the male sector and 13.1 per 10^5 populations for the female population. Melanoma most commonly presents as skin lesions and in some rarer cases mucosal or retinal lesions, although there have been various incidences where they have found in other parts of the body; the latter are usually secondary deposits. There are few literature reports of melanomas as primary lesions in parts of the body other than the skin. A series of reports have been published by Baab and McBride showing 4% unknown primary sites.

This patient had been extensively investigated at the time of diagnosis, but no other sites had any evidence of...