

Case Report:

Fulminant metastatic malignant melanoma

N.M.K. Faheem,¹B.V.S.Prasad,¹ P.V. RamanaBabu,¹ K.T.C.S. Suman,¹ E. Sudhakar Reddy,¹ K.Ramesh²

Departments of ¹Pathology, ²General Surgery. S.V.Medical College, Tirupati

ABSTRACT

A 50-year-old lady presented with complaints of chest pain and cough for the past one month. Right supraclavicular lymphadenopathy, bilateral pleural effusion were present. Fine needle aspiration cytology (FNAC) from the lymph node showed brownish-black pigment laden tumour cells. Review of history subsequently revealed that she had undergone a surgical procedure over the sole of her left foot three years ago of which no records were available. Re-examination of sole of left foot showed a pigmented infiltrating lesion. Pleural biopsy revealed pigmented tumour deposits. The patient was diagnosed to have fulminant metastatic malignant melanoma of left foot with metastasis to cervical lymph nodes and pleura. This case report re-emphasizes the importance of combined approach to ascertain diagnosis early.

Key words: Fine needle aspiration cytology, Melanoma, Metastasis, Pleural biopsy

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INTRODUCTION

Malignant melanoma has now become one of the common life-threatening malignancies of the skin.¹ The metastatic behaviour of melanomas is varied and unexplainable. These tumours arise from melanocyte precursors similar to melanotic naevi.² Malignant melanomas account for 5%-15% of all cases of pulmonary metastases.^{3,4}

CASE REPORT

A 50-year-old lady presented to the medical outpatient department with complaints of chest pain and cough for the past one month. On examination, the breath sounds over both lung fields were diminished. Laboratory investigations including Haemogram, blood urea, serum creatinine and urinalysis were normal. Physical examination revealed a 2.5 × 2.1 cm right supraclavicular lymph node (Figure 1), The chest radiograph (postero-anterior view) showed bilateral pleural effusion, that was more on the right side and fine needle aspiration cytology (FNAC) from right supraclavicular lymph node showed clusters of brownish-black pigment laden tumour cells displaying severe degree of nuclear pleomorphism and hyperchromatism, multinucleated tumour giant cells, scattered atypical mitotic figures in the midst of

lymphoid population entangled in nodal reticulum (Figure 2). On subsequent history review, the patient revealed that she had undergone a surgical procedure over the sole of her left foot for a pigmented lesion three years ago. However, the patient did not have any earlier record or reports with her and was unaware of the condition.

On examination of the sole of the left foot, a large brownish black pigmented flat lesion measuring 4.5 × 3.2 cm still existed and the borders were spreading and infiltrative in nature (Figure 3). Pleural fluid from right-sided pleural cavity showed only chronic inflammatory cell infiltrates on cytological evaluation whereas, the histopathological examination (HPE) of the pleural biopsy specimen showed brownish black pigment laden atypical epithelial cells and scattered tumour giant cells in the midst of pleural fibrocollagen (Figure 4). In order to ascertain the nature of pigment, histochemistry with melanin bleach using hydrogen peroxide (H₂O₂) was performed which confirmed that the pigment was melanin (Figure 5). Thus, the patient was diagnosed to have malignant melanoma of left foot with metastasis to cervical lymph node and pleura. In view of distant metastases with diffuse involvement, it was considered to be a fulminant metastatic

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Corresponding author: Dr N.M.K. Faheem, Assistant Professor, Department of Pathology, S.V.Medical College, Tirupati. **e-mail:** faheemkhader@gmail.com



Figure 1: Clinical photograph showing right supraclavicular lymphadenopathy (circle)

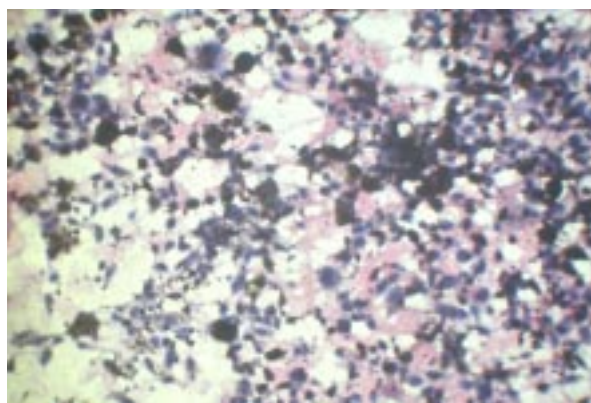


Figure 2: Photomicrograph of FNAC specimen obtained from right supraclavicular lymphnode showing atypical cells heavily laden with brownish black pigment (Haematoxylin and eosin $\times 100$)
FNAC=fine needle aspiration cytology



Figure 3: Clinical photograph showing brownish black pigmented lesion over the sole of left foot

malignant melanoma. The patient was then subjected to computed tomography (CT) of the thorax (Figure 6), abdomen and brain which revealed haemorrhagic metastases in nodular and cystic forms in upper lobe of the right lung

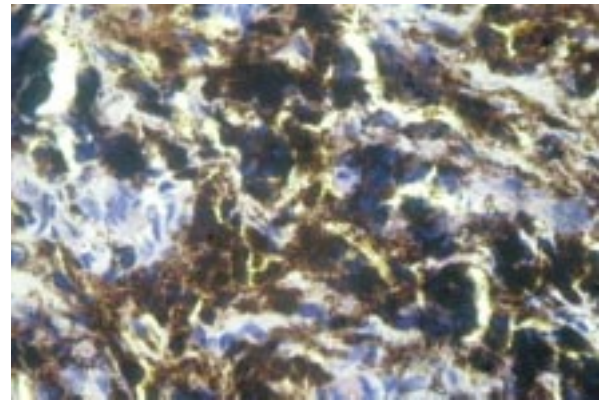


Figure 4: Photomicrograph of pleural biopsy obtained from the right pleura showing brownish black pigment containing atypical cells in the midst of fibrocollagen. (Haematoxylin and eosin $\times 400$)

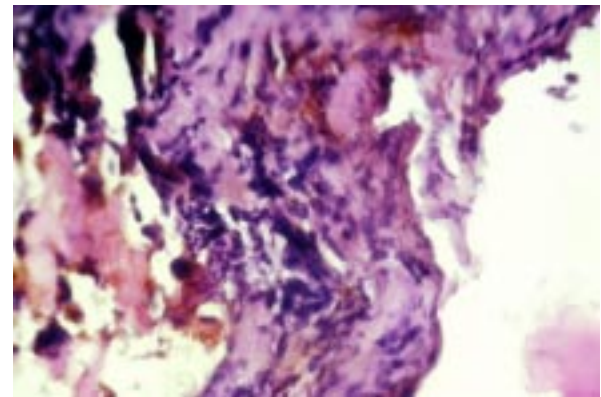


Figure 5: Photomicrograph of pleural biopsy obtained from the right pleura showing positive bleaching test (Melanin bleach $\times 400$)

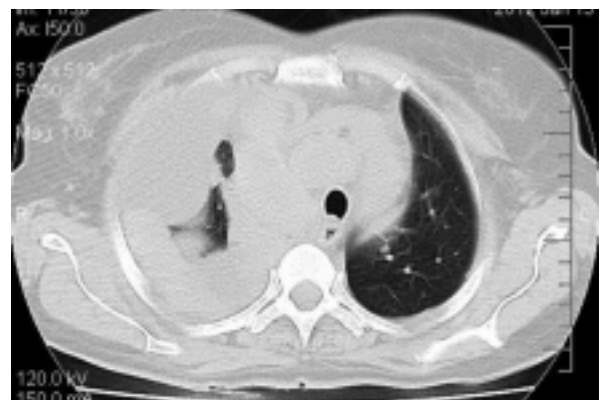


Figure 6: CT chest showing right pleural effusion

right-sided and right parietal lobe of brain. The patient was referred to the corresponding clinical units for further management and is being followed-up.

DISCUSSION

Majority of malignant melanomas metastasize through haematogenous route, but some may

spread via lymphatics also. Malignant melanomas have a high rate of distant metastases. This is considered as the cause of death in patients.^{1,2,5-7} Melanomas are known to metastasize more than 10 years after the onset of primary tumours.¹ In our patient, metastases have occurred within three years. In clinical practice, diagnosis of melanoma is a challenge, as it has a narrowed edge of differentiation with other lesions like haemangiomas, dermal naevi and small skin tags.¹ Even the CT also cannot give an accurate diagnosis of any visceral metastasis.

Diagnosis of metastatic melanoma always requires a detailed enquiry into the present and past history and a thorough physical examination.⁸ In the present case, FNAC and HPE played a major role in obtaining the diagnosis with the help of clinical and radiographic examination. Almost, all cases of disseminated fulminant malignant melanoma have thoracic involvement.⁹ Various patterns of presentation have been described, such as, solitary, multiple and miliary nodules, hilar or mediastinal enlargement¹⁰ pleural effusion¹¹ etc. In our case the presentation was with pleural effusion and metastatic cervical lymph nodal enlargement.

Cytopathological evaluation of swellings is a rapid and accurate tool to diagnose many human cancers including malignant melanoma.¹² It allows a prompt and proper triage of the patient's care.¹³ Histopathological examination always helps to derive the final and accurate diagnosis. This case report re-emphasizes the importance of combined clinical, radiological, cytological and histopathological approach for early detection of fulminant metastatic malignant melanoma to facilitate institution of prompt treatment.

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