



## Malignant Melanoma Presenting as Bilateral Pleural Effusion

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### Abstract:

Malignant melanoma is a common malignancy in Western population especially in light skinned people although it is relatively uncommon in India. Pleural effusion is an unusual presentation of malignant melanoma. We present the case of a 45 year old patient who presented with chest pain and dyspnea. Computed tomography scan of chest revealed bilateral pleural effusion. Cytological examination of pleural fluid was found to contain malignant epithelial cells. Fine needle aspiration cytology of ulceroproliferative lesion in left sole was suggestive of malignant melanoma. The patient was treated with chemical pleurodesis but he succumbed to progressive disease after six months.

**Key words:** Dyspnea, Melanoma, Pleural Effusion, Pleurodesis, Tomography.

### Introduction

Malignant melanoma is a common malignancy in Western population especially in light skinned people although it is relatively uncommon in India [1]. We present a case of malignant melanoma on the sole with bilateral pleural effusion.

### Case Report

A 45 year old male patient presented to us with complains of chest pain, tachypnea and dyspnea. The patient was being treated for the past one month with antitubercular drugs without any relief of symptoms. Chest examination revealed bilateral restricted air entry. A computed tomography scan of chest revealed bilateral pleural effusion. Lung parenchyma contained multiple isodense

lesions of various sizes along with bilateral hilar lymphadenopathy [Fig.1]. The findings were suggestive of metastatic deposits. The pleural fluid was aspirated on the right side for symptomatic relief. Cytological examination of pleural fluid revealed round to oval spindle shaped cells containing hyperchromatic nuclei with abundant cytoplasm along with brown coloured pigment in proteinous background consistent with malignant epithelial cells [Fig.2]. A careful physical examination of the patient revealed an ulceroproliferative black growth over the sole of left foot about 5 cm in size. The lesion was non-tender and had been present for years [Fig.3]. Fine needle aspiration cytology smear of the lesion revealed malignant cells of epithelial origin appearing as round to oval spindle

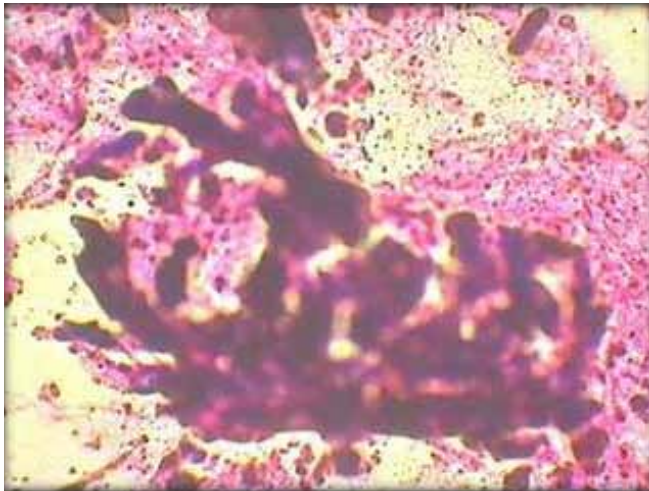
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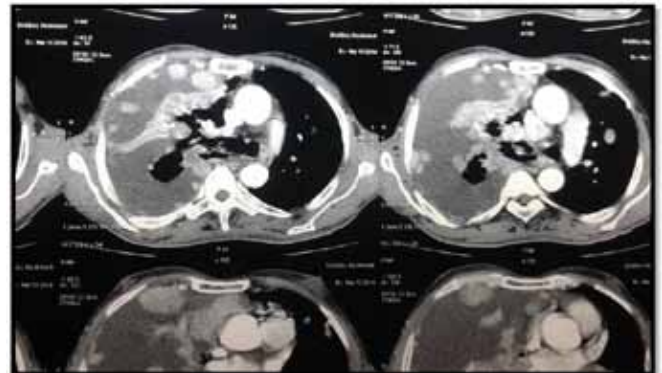
**Fig.1:** Pleural fluid cytology showing malignant epithelial cells spindle to round in a proteinous background.

shaped cells with hyperchromatic nuclei along with brown coloured pigment [Fig.4]. The findings were suggestive of malignant melanoma. The findings were further confirmed by Masson Fontana stain which revealed Melanin argentaffin cells along with chromaffin granules [Fig.5].

The patient was treated with chemical pleurodesis using iodo-povidone but he succumbed to progressive disease after six months.

## Discussion

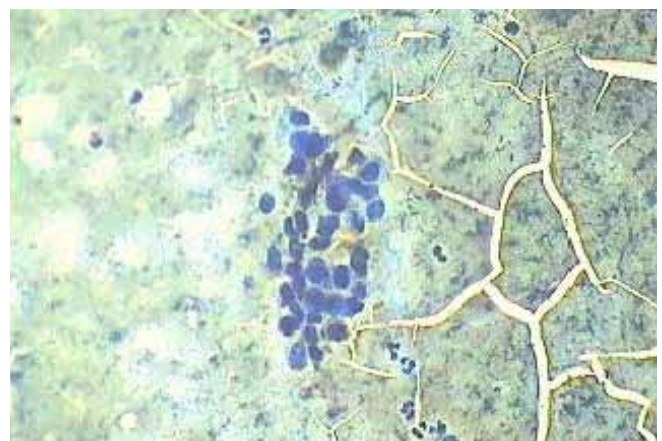
Malignant melanoma is a common malignancy in Western population especially in people with light coloured skin. Malignant melanoma is the fifth most commonly diagnosed malignancy in the United States [1]. However, the neoplasm is relatively uncommon among Asians, Hispanics and Africans [2]. A study from Japan reported a rising incidence of malignant melanoma [3]. A study from China which reviewed 522 patients with malignant melanoma found that most patients presented with locally advanced disease and had suboptimal prognosis. They also concluded that clinical staging and ulceration were



**Fig.2:** CT scan showing right massive pleural effusion with left pleural effusion and multiple iso-dense lesions in lung parenchyma.



**Fig.3:** Ulceroproliferative lesion over sole of left foot.

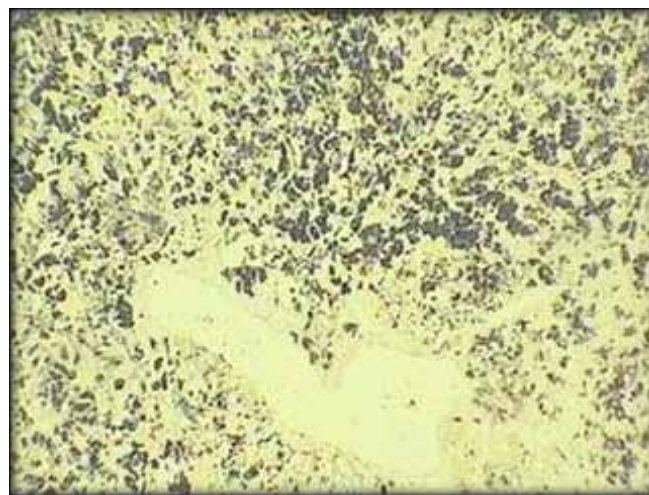


**Fig.4:** Fine needle aspiration cytology of ulcer.

significant predictors of overall survival while extent of surgery and use of adjuvant therapy were significant predictors of disease free survival [4].

Metastatic malignant has poor prognosis with 5-year survival for localised melanoma reported to be 91%, but the corresponding figures for regional and distant stage disease is 63% and 16% respectively [5]. Our patient ignored the primary lesion for many years and sought medical treatment when he developed respiratory symptoms. Pleural effusion is an unusual presentation in metastatic malignant melanoma [6]. 5% of all secondary neoplasms of lung are caused by malignant melanoma [7]. In a study of 130 cases of malignant melanoma with thoracic involvement, only 2% had pleural effusion [8]. The black colour of pleural effusion may point to a diagnosis of malignant melanoma [9].

Treatment in metastatic malignant melanoma is mainly palliative. A case of treatment of bilateral pleural effusion along with ascites with a multi-perforated catheter in malignant melanoma has been reported [10]. Malignant pleural effusion is primarily treated with chemical pleurodesis due to limited life expectancy [11]. Talc is regarded as the most effective sclerosant for pleurodesis although tetracycline, bleomycin and iodopovidone are also used. We prefer to use iodovidone at our institute as it is cheap, easily available and has been reported to be effective for pleurodesis [12]. Recently, the identification of mutation in v-raf murine sarcoma viral oncogene homolog B1 (BRAF), a serine/threonine kinase as a key step in melanoma carcinogenesis has opened up new possibilities in treatment. BRAF protein inhibitors such as vemurafenib and dabrafenib have been approved by the US FDA for treatment of metastatic malignant melanoma and have shown good results in clinical trials [13]. Our patient was not treated with these agents due to their high costs and limited availability in our region.



**Fig.5:** Masson Fontana stain of ulcer cytology.

## Conclusion

Bilateral pleural effusion is a rare presentation of malignant melanoma. Metastatic malignant melanoma has a limited life expectancy and therefore early diagnosis and treatment should be instituted.

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