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The curious case of groin-swelling and a missing toe: A case report

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Abstract
Melanoma, a common cutaneous malignant tumour arises from melanocytes. The incidence in Asia and Indian subcontinent is increasing over the years. Apart from variable morphologies under cytology and histopathology, clinical presentations are also diverse. Here we present a case of melanoma with late recurrence and metastasis following the amputation of primary tumour. We conclude that melanoma may mimic the presentation of gangrene and hence it is important to subject any excised specimen to pathologic examination.

Keywords: Malignant Melanoma, Late recurrence, Metastatic Melanoma, Lymph node metastasis.

1. Introduction
Melanoma is a malignancy arising from neural-crest derived melanocytes. The incidence of melanoma has been increasing over the past few decades [1]. According to the WHO Global Observatory data, although the population of India is less prone to develop melanoma (Age Standardised Incidence Rate of 0.24 in 2018 in comparison to 12.7 in the United States of America), the prevalence in India is on the rise as well [1]. Melanoma is an enigma considering the facts that it is a great mimicker of other tumours and also possesses the ability to metastasise to virtually any organ in the body [2, 3].
Prognosis of melanoma is found to be poor, specially so in the later stages when the disease is metastatic [4].

2. Case Report
A 65-year-old male patient without any apparent co-morbidities presented to the out-patient with the complaints of right lower limb swelling, extending from dorsum of foot to mid-thigh. The swelling was not associated with any aggravating or relieving factors, and the patient did not give any history of pain. The patient, however, complained of another swelling, which was located over his right groin from the past 1 month. This groin swelling was associated with scanty discharge over the past 3 days.
On examination, right foot was oedematous with local rise in temperature extending throughout the right leg (Figure 1). The groin swelling on examination consisted of multiple nodular lesions, the largest of them measuring 8x6 cm, had irregular borders, bossellated surface, and was hard in consistency. It was ulcerated and there was a scanty discharge associated with it (Figure 2).

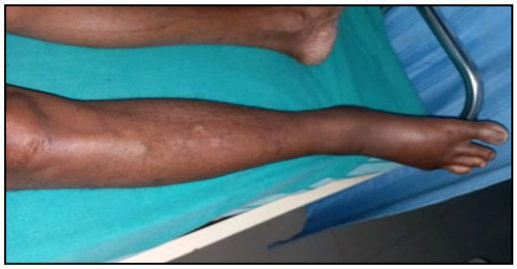

Fig 1: Clinical image showing oedematous right foot and inflamed right leg. The missing fifth toe is apparent in the image.

Fig 2: Clinical image showing blackish right groin swelling with ulceration.

Considering the swollen right lower limb with inguinal lymphadenopathy, a clinical diagnosis of right lower limb cellulitis was made and the patient was referred to undergo an ultrasonographic examination. This revealed the groin swelling to be a conglomerate of lymph nodes having a necrotic centre and loss of fatty hilum.

For further evaluation, this patient was referred to our department to undergo a fine-needle aspiration cytology. The material aspirated was brownish to dark in colour, granular, and blood-mixed. Cytology of these slides showed cellular smears with round to oval and spindle-shaped cells arranged in loosely cohesive clusters, and in singles. They displayed mild pleomorphism with anisokaryosis, nuclei of some of the cells showing a prominent eosinophilic macronucleolus. Brownish pigment was noted both in the extracellular location and within the cytoplasm of these cells along with a few macrophages showing the same pigment within their cytoplasm. Background of the smears was haemorrhagic (Figures 3, 4). An impression of metastatic deposits from a malignant melanoma was made.

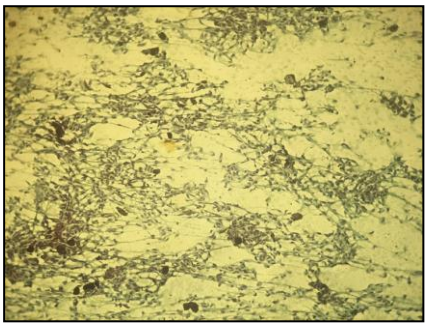

Fig 3: Microphotograph showing the biphasic tumour population (round to oval & spindle shaped cells). Extracellular pigment deposition is clearly noted. (x100, Papanicolaou).

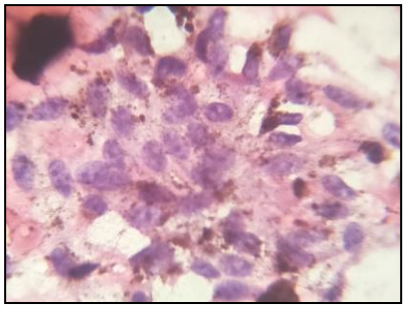

Fig 4: Microphotograph with tumour cell nuclei displaying prominent cherry-red nucleoli. Intracytoplasmic and extracellular pigment deposition is evident (x400, Papanicolaou).

Right lower limb of the patient was carefully examined to look for the primary lesion, almost in vain but for the missing right fifth toe. On further probing the patient about the same, the patient revealed that he had presented with blackish discolouration of his right fifth toe which was diagnosed to be gangrene, for which toe disarticulation was done in a local hospital about 3 months back. This, most probably, was the primary which was removed, since no other lesion was found during the present visit despite meticulous examination.

With the cytological diagnosis of metastatic Malignant Melanoma, the patient underwent further ancillary tests including an ultrasonographic examination of the abdomen which revealed multiple hypoechoic lesions in the liver, largest measuring 1.1x1 cm having a central hyperechoic focus, features suggestive of secondary lesions in the liver.

3. Discussion

Melanomas are malignant neoplasms arising commonly from skin and non-cutaneous tissues such as uvea and retina of eye, leptomeninges, and bowel mucosa. The development of melanoma could either be de-novo or from a pre-existing benign naevus. Commonly affecting sun-exposed skin, these tumours can present as pigmented lesions, generally with a diameter larger than 10mm, having warning signs as asymmetry, irregular border, variegated colour, increasing diameter, and evolution [5].

Melanomas are highly malignant tumours and late detection usually is a poor prognostic factor. Literature shows cases of treated melanomas developing late metastasis/ late recurrence [6, 7].

Though classically known to produce pigments, amelanotic melanomas are not uncommon. Colour of the lesion depends on the amount of pigments produced, and vary from light brown to jet black [5]. Since size of the lesions is variable as well, large melanomas with dark pigmentation located at the extremities in a patient having comorbidities such as smoking/ Diabetes can easily be misdiagnosed clinically as gangrene as seen in the case we discussed [8].

Melanoma cytology shows variable cellularity of dyscohesive tumour cells of small to large cells showing single or multiple nuclei. Nucleus to cytoplasmic ratio is variable, cells show nucleus of varying sizes. Though characteristically said to have eosinophilic ‘cherry-red’ macronucleolus, smaller nuclei may also be seen. Intracytoplasmic or extracellular melanin pigment deposit may be seen [9].

4. Conclusion

Both metastasis without a concrete identification of primary tumour, and delayed spread, are known to occur in cases of melanoma. Hence, it is imperative to obtain a detailed clinical history and perform a thorough examination lest the condition goes misdiagnosed. A good practice would be to send any excised tissue for a histopathological examination of. This would have avoided such a misfortune.

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