

## NODULAR MELANOMA WITH LIVER AND LUNG METASTASES

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### Abstract

Malignant melanoma is a neoplasm of melanocytes, usually arising in the skin and mucous membranes. It is a potentially aggressive tumour with ability to metastasize widely. The liver is rarely the first site of metastases. Prognosis of melanoma, if diagnosed earlier, is excellent but very poor if metastasis to visceral organs occurs. Herein, we report a rare case of nodular melanoma with metastases to liver and lung.

**Key words:** Nodular melanoma, Liver metastasis, Lung metastasis, Ilioinguinal swelling

### Introduction

Melanomas are malignant neoplasm that originate from melanocytes, most commonly in the skin and mucous membranes.<sup>1</sup> Melanomas are the most aggressive type of skin malignancies worldwide, accounting for only 5% of skin malignancy, but resulting in over 75% of deaths related to skin malignancy.<sup>2</sup> It shows a progressive increase in incidence with age, with the patients being mainly between 30 and 60 years old. The common sites of involvement are lower limbs in females and over back in males. It is most common in white races, as the skin pigment has a protective function in colored people.<sup>3</sup>

The diagnosis of primary melanoma is easily confirmed after histological analysis of the lesion, whereas it is rarely diagnosed when distant metastasis has occurred as the time elapsed between primary lesion and the appearance of metastases is very long, average being 3 years.<sup>4,5</sup>

There are only few published reports<sup>6</sup> of nodular melanoma with liver and lung metastases from Indian subcontinent, thereby we report this case.

### Case Report

A 50-year-old male gave history of appearance of multiple, painless dark colored nodules over left lower limb for past 3 months. He also noted gradually progressive, painful skin colored swellings in left groin area, which eventually ruptured, discharging yellowish-red to dark colored fluid. The patient underwent amputation 3 months ago for a hyperpigmented skin nodule over great toe that was present for last 3 years. There was history of significant weight loss, around 10 kilograms in last 2 years. There were no other systemic complaints.

Cutaneous examination revealed multiple, well defined, firm, mildly tender, discrete, hyperpigmented nodules, varying in size from 1 to 5 cm on antero-medial aspect of lower thigh and left leg (Figure 1). Three large (5x10x5, 4x8x3 and 5x5x2 cm) sized tender, hard, skin colored swellings were present over left ilioinguinal area; one above and two below the inguinal ligament (Figure 2).

Systemic examination revealed mild hepatomegaly. Rest of the systemic examination was normal. Apart from leucocytosis (13,680 per mm<sup>3</sup>), slight neutrophilia (86%) and raised ESR (28 mm per hour), rest of the haematological and biochemical



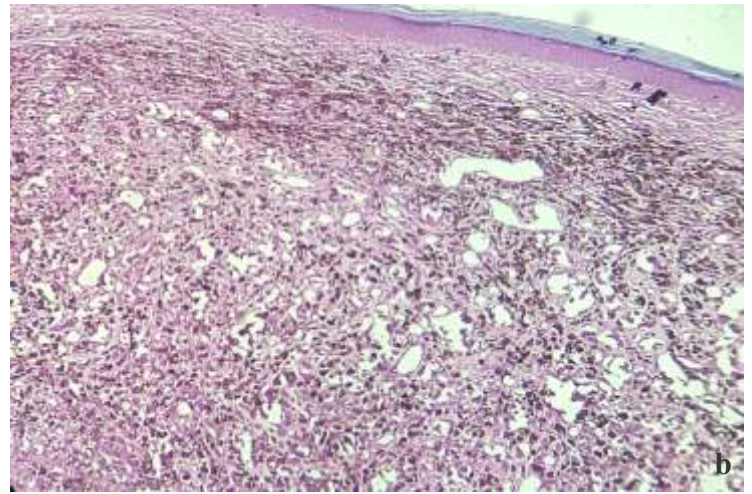
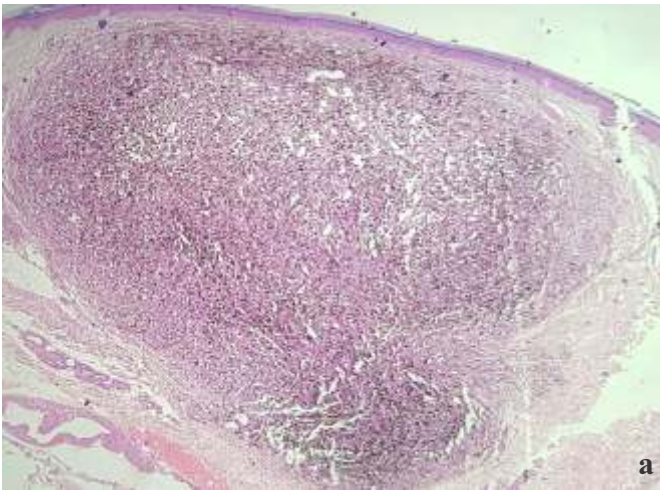
**Figure 1 :** Multiple, well defined, discrete, hyperpigmented nodules on antero-medial aspect of lower thigh and left leg

investigations were within normal limits.

Fine needle aspiration cytology (FNAC) from left inguinal swelling and cutaneous nodule over left leg showed sheaths of round cells with moderate amount of cytoplasm containing bluish-black pigment and provisional diagnosis of malignant melanoma was entertained. Ultrasonography of abdomen showed multiple echogenic lesions of varying size in both lobes of liver, with central necrotic areas in a few of these, suggestive of melanoma. X-ray chest showed homogenous radio-opacity in



**Figure 2 :** Three large (5x10x5, 4x8x3 and 5x5x2 cm) sized, skin colored swellings over left ilioinguinal area; one above and two below the inguinal ligament



**Figure 3a** : Nodular aggregates of pigmented spindle shaped cells and epithelial cells in the dermis (H & E, 4x), **3b** Cells exhibiting hyperchromatic and pleomorphic nuclei with nucleoli and mitotic activity and heavy variable melanin pigmentation in cytoplasm (H & E, 10x)

right mid zone with the possibility of metastases. Further elaborative CT-scans of thorax, brain and abdomen could not be done due to financial constraints.

TNM classification of malignant melanoma revealed the tumor stage as T1aN1M1c. Clark scale demonstrated that melanoma has spread into reticular dermis (Level 4).

Histopathology of the cutaneous nodule showed nodular aggregates of pigmented spindle shaped cells (Figure 3a). The cells exhibited hyperchromatic and pleomorphic nuclei with nucleoli and mitotic activity and heavy variable melanin pigmentation in cytoplasm. The intervening stroma was scanty and showed scattered lymphocytic infiltrate and was devoid of desmoplasia (Figure 3b). These findings were consistent with the diagnosis of melanoma.

#### Discussion

Malignant melanoma is rarely encountered cutaneous malignancy in the Indian subcontinent, with a prevalence of 0.5-2 per 100,000 persons. But on account of large Indian population, the numbers of cases assume significance.<sup>2</sup> The exact etiopathogenesis of cutaneous melanoma is not known. Role of genetic predisposition and sun exposure has been demonstrated in various epidemiological studies.<sup>7</sup> Other risk factors include albinism, positive family history of skin malignancy, and other types of non-malignant nevus.<sup>8</sup>

Melanomas spread via lymphatics or by hematogenous dissemination. Detection of metastasis is important prognostic indicator. The median survival is approximately 7 months for patients with non-visceral metastases, but it falls to 2.4 months when liver metastases is present, whether alone or in association with other organs.<sup>4</sup> Cutaneous melanoma spreads primarily to lymph nodes and soft tissues, with liver disease found in only 15% of patients with metastases.<sup>9</sup>

The frequency of involvement of liver as initial site of melanoma metastases is approximately 4%.<sup>3</sup> Fine needle aspiration is commonly used rapid, cost effective, highly reliable and minimally invasive procedure. FNAC of palpable lymph nodes can provide rapid and accurate assessment of lymph node status, which can help further in therapeutic management.<sup>10</sup> The assessment tools for visceral involvement include ultrasonography, computed tomography, nuclear magnetic resonance, and cystoscopy in case of bladder involvement.<sup>3</sup>

Medical treatment for metastatic disease remains unsatisfactory. Wide local excision of melanoma along with healthy skin margin and lymph node dissection is recommended for localized disease.<sup>2</sup> In view of numerous nodules and visceral metastases in our patient, both the treatment options could not be contemplated and he died of advanced disease.

#### How to cite this article:

Ansari F, Balai M, Gupta LK. Nodular melanoma with liver and lung metastases. *JDA Indian Journal of Clinical Dermatology*. 2019;2:90-91.

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