

MALIGNANT MELANOMA OF THE HEEL

Pages with reference to book, From 50 To 53

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Primary cutaneous melanomas are usually divided into three separate clinicopathologic groups: lentigo maligna melanoma (LMM), superficial spreading melanoma. (SSM), and nodular melanoma (NM)¹. Acral lentiginous melanoma has been described as the fourth distinct subtype to denote those melanomas that arise on volar and subungual skin. This entity is said to have a radial growth phase histologically similar to that of lentigo maligna melanoma^{2,3}. Because of the acral distribution of the tumour and the radial lentiginous proliferation of tumour cells the lesions were named acral lentiginous melanomas (ALM)^{4,5}. Pathologic subclassification and evaluation of the level of invasion or tumour thickness of malignant cutaneous melanomas are important for prognosis and appropriate treatment³. Melanoma of the foot is twice as common in women as in men, and has highest frequency in the older age group. The distribution of malignant melanoma on the foot shows the greatest density on the sole of the foot and on the heel⁶. Tumours of the hand and feet, especially malignant tumours, are very rare and their incidence, compared to those of other cutaneous regions of the body is considerably lower. This is interesting since the skin surface of these two organs is 10% of the body surface⁷. The greatest incidence is between 50 and 70 years of age with about the same number of patients in each of these decades⁸.

CASE REPORT

In September 1981, a 58-year-old man presented with a two-year history of a small fissure-like lesion on the medial side of his right heel. It occasionally bled and was rarely painful. Gradually the bleeding became more frequent with slight pain at walking. Soon the lesion had an ulcerated area with a radish center and black margins. He continued treating it at home by applying antiseptics like detol and alcohol with bandage. The patient once cut the exophytic growth surface in slices with a razor blade, which he said was not painful. After this, bleeding was frequent and for longer periods, particularly after walking. It was at this time he visited his doctor. On examination the lesion was a large exophytic ulcerated growth on the medial side of the right heel, measuring 5cm in diameter. The margins had black spots, the center was red, flashy, angry looking and bled easily. The right groin had a firm mass measuring 2cm X 2cm. No other lymph nodes nor the liver or spleen were palpable. Chest X-ray was normal. Biopsy from the heel ulcer and inguinal lymph node showed malignant melanoma with metastasis in the lymph node. Radiotherapy was started locally to the heel ulcer. The patient quickly developed cervical and axillary masses with subcutaneous nodules on the chest and abdomen. In early March 1982 he had enlarged liver up to the umbilicus and subsequent development of ascites. Five litres of blood stained ascitic fluid was tapped twice. It reaccumulated quickly and the patient became increasingly breathless. He lost weight and had anorexia. Vomiting of coffee groutid fluid ensued and respiration became more laboured. On March 23, 1982 he collapsed after projectile vomiting of blood.

HISTOPATHOLOGY

Histopathology of the exophytic heel growth revealed malignant melanoma. Classification could not be

done because of whole surface ulceration. The tumour, however, had invaded to the Clark's level V. The neoplasm was composed of sheets of rounded to oval cells with hyperchromatic nuclei, prominent nucleoli, thick nuclear membrane and clumped chromatin. The cytoplasm in many areas was laden with a brown pigment. Mitoses were more than 10/10 hpf, making it a grade 3 lesion² (Figure 1 and 2).



Figure 1. Section of malignant melanoma on heel with ulceration and necrotic slough on top. The tumour has invaded the deeper dermis. H & E X 52.5.

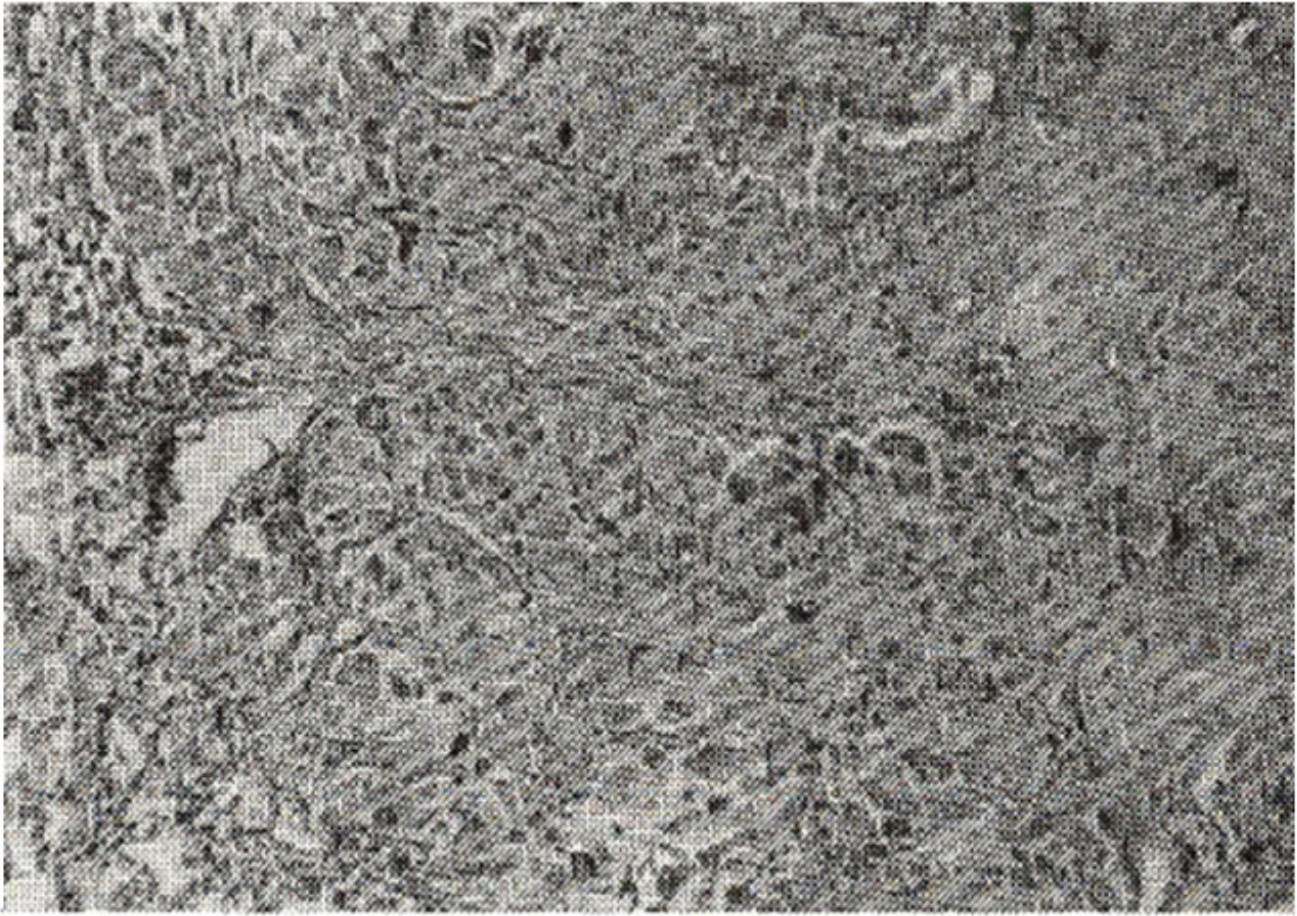
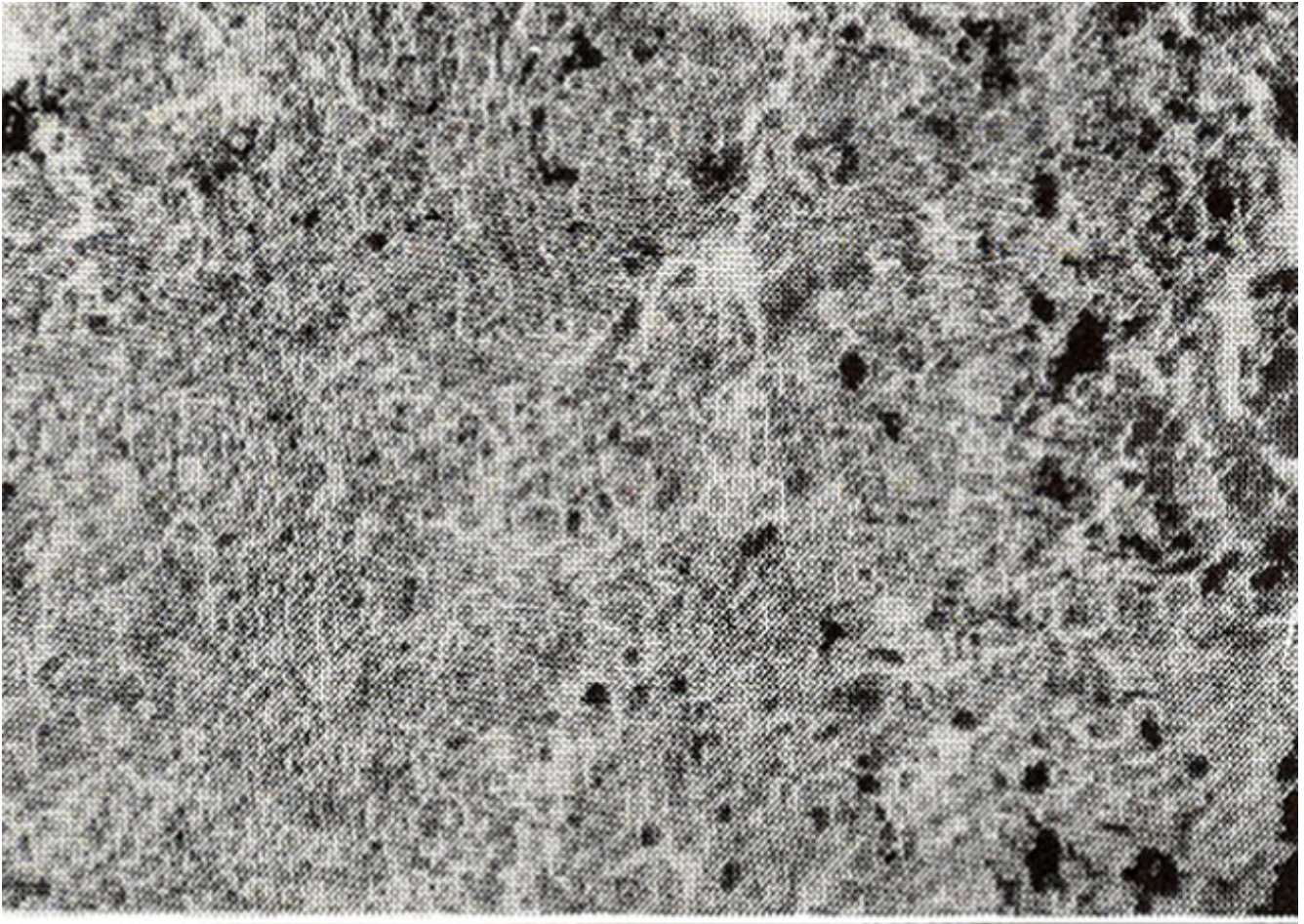


Figure 2. Anaplastic malignant melanoma cells with melanin pigment in the cytoplasm H & E X 150.

Sections from the lymph node in the groin showed replacement of the lymphoid tissue in large areas by a metastatic neoplastic process composed of sheets of polygonal to oval cells. The presence of the brown pigment in the cytoplasm of the neoplastic cells was so striking that it had almost brown to black pigment obscuring the nuclear details of the tumour cells (Figure 3).



**Figure 3. Metastasis in the lymphnode of the groin. The malanin pigment has obscured the cellular details.
H & E X 150.**

DISCUSSION

Malignant melanoma of cutaneous origin is a most unpredictable lesion. The marked variation in prognosis is probably a function of many variables¹ a major one being the size of the tumour^{9,10}. Significant contribution in this regard was by Allen and Spitz¹¹ who pointed certain favourable prognostic features such as small tumour size, lack of deep infiltration, lack of ulceration, lack of pleomorphism and absence of sparsity of mitotic figures. Categorization of cutaneous melanoma by levels of invasion by Clark et al¹ was a significant progress in determining the prognosis. Level I represents a malignant melanoma confined to the epidermis; level II shows invasion of the papillary dermis; level III demonstrates accumulating tumour cells at the interface between the papillary and reticula dermis; often with expansion of the former zone; level IV shows tumour extension into the reticular dermis; and level V shows extension of the tumour to the subcutaneous fat^{1,12}. The course of treatment and prognosis is determined by the level of invasion at the time of diagnosis¹³. The importance of Clark's level on lymph node metastasis and survival of the patient becomes apparent from the studies of Wanebo et al¹⁴, who described nodal metastasis in 4% for level I, 7% for level II, 11,25% for level III and 70% for level IV. The five years cure rate was 100% for level I, 88% for level II,

III, 60% for level IV, and only 15% for level V¹³. Breslow^{9,10} has added another most important and relevant point of tumour thickness consideration to the Clark's level of invasion. Simultaneous evaluation of tumour thickness and stage of invasion is of greater value in assessing prognosis than either alone. Malignant melanoma of the foot with simultaneous nodal metastasis in the groin is generally believed to give a universally ominous prognosis⁸. Our patient had a Clark's level V malignant melanoma of the medial side of the right heel with lymph node metastasis in the groin at the time of diagnosis. He quickly went downhill with widespread nodal, subcutaneous and visceral metastases, resulting in hemorrhagic ascites and death within 6 to 7 months of the diagnosis. The salvage of the patient lies in the early diagnosis of melanoma, especially at the Clark's level I and II, with a wide resection and lymph node removal if indicated.

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