

CASE STUDIES

Vegetable matter clinically mimicking as melanoma: An unusual case report

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Abstract

A large number of foreign substances invade the skin voluntarily and involuntarily. The voluntary substances include particulate materials used in tattoos and cosmetic filters, whereas, the latter involves accidental inclusion of external substances secondary to trauma. Clinical presentation of these foreign substances as pigmented lesion, mimicking a nevus/melanoma, poses a major concern to both clinician and the patient. The present case study focuses on the unusual presentation of vegetable matter, clinically mimicking as junctional nevus/melanoma.

Introduction

Melanoma, a highly malignant tumor, may mimic other benign and malignant neoplasms due to its heterogeneous clinical presentation with solitary or multiple, pigmented or erythematous, dermal or subcutaneous lesions.¹ It has the potential to metastasize to any organ, but the pattern of metastasis is unpredictable. The most common sites of metastasis are lymph node and visceral organs. Skin metastasis of melanoma (cutaneous and/or subcutaneous) is relatively more common and misdiagnosing such metastatic neoplasms as benign lesions can result in significant under staging of the patient.¹ Alternatively, misdiagnosing a benign lesion as metastatic melanoma may lead to significant treatment-related morbidity from unnecessary toxic adjuvant therapy.^{1, 2}

Case report

A 24-year-old female presented to the outpatient department with a black lesion on the sole of the right foot. The lesion, which was present since one month, was itchy and irregular. There was no history of trauma. Clinically, it was suspected as junctional nevus or melanoma. Routine biochemical and microbiological investigations were normal. Hence excision biopsy of the lesion was performed and sent for histopathological examination.

Grossly, the tissue was of 3 cm x 2 cm in size with a hyperpigmented area at the center measuring 0.75 cm x 0.5 cm. The tissue cross-section showed a black pigmented lesion in superficial portion, while the deeper portion did

not show any pigmentation (Fig.1). Microscopically, the epidermis of acral skin was hyperplastic and a vegetable matter was seen in the stratum corneum (Fig. 2, 3, and 4). Dermis showed fibrosis and dense lymphoplasmacytic aggregates. No evidence of melanocytic proliferation was seen. Special stains were not contributory. Hence, it was reported as vegetable matter clinically presenting as melanoma. Patient was counselled about the disease. The patient is doing well on follow-up done after a year.

Discussion

Pathologists should be aware of the anomalies produced by the exogenous and endogenous substances in cutaneous biopsies. Exogenous lesions caused by externally introduced materials or foreign bodies include gelfoam, drysol reaction, Monsel's reaction, lycopodium granuloma, polyvinyl pyrrolidone disease, silica granuloma, mercury granuloma, and paraffinoma. Endogenous lesions are substances that result from tissue host response to an injury or physical insult as seen in synovial metaplasia and lipomembranous fat necrosis.²⁻⁵ Vegetable matter is usually associated with foreign body reaction and often has small uniform spaces with cell walls and internal structures.²⁻⁵

Simple intradermal nevi are rare on soles, palms, and genitalia. Hence a pigmented mole in these 3 locations should be clinically presumed as a junctional nevus, a compound nevus or melanoma. The junctional nevus tends to be hairless and smooth, flat or only slightly raised, and of various shades of brown. It may occur on any part of the

body including the mucous membranes of certain regions. For all practical purposes, as mentioned, pigmented blemishes on the genitalia, the sides of feet, palms, and digits should be considered wholly or at least in part junctional. Histologically, the quiescent junctional nevus is located entirely within the epidermis and is characterized by the following features:

1. Dyscohesive cells beginning with the basal cells and extending progressively to the outermost layers of epidermis
2. A vacuolization and loss of desmosomes of the involved epidermal cells, particularly the lowermost ones
3. A scattered and increased melanin pigmentation and dopa positivity in the basal cells and those of the overlying layers of epidermis.²

The active or precancerous junctional nevus has one or more of the following features:

1. The nuclear anaplasia such as hyperchromatism,

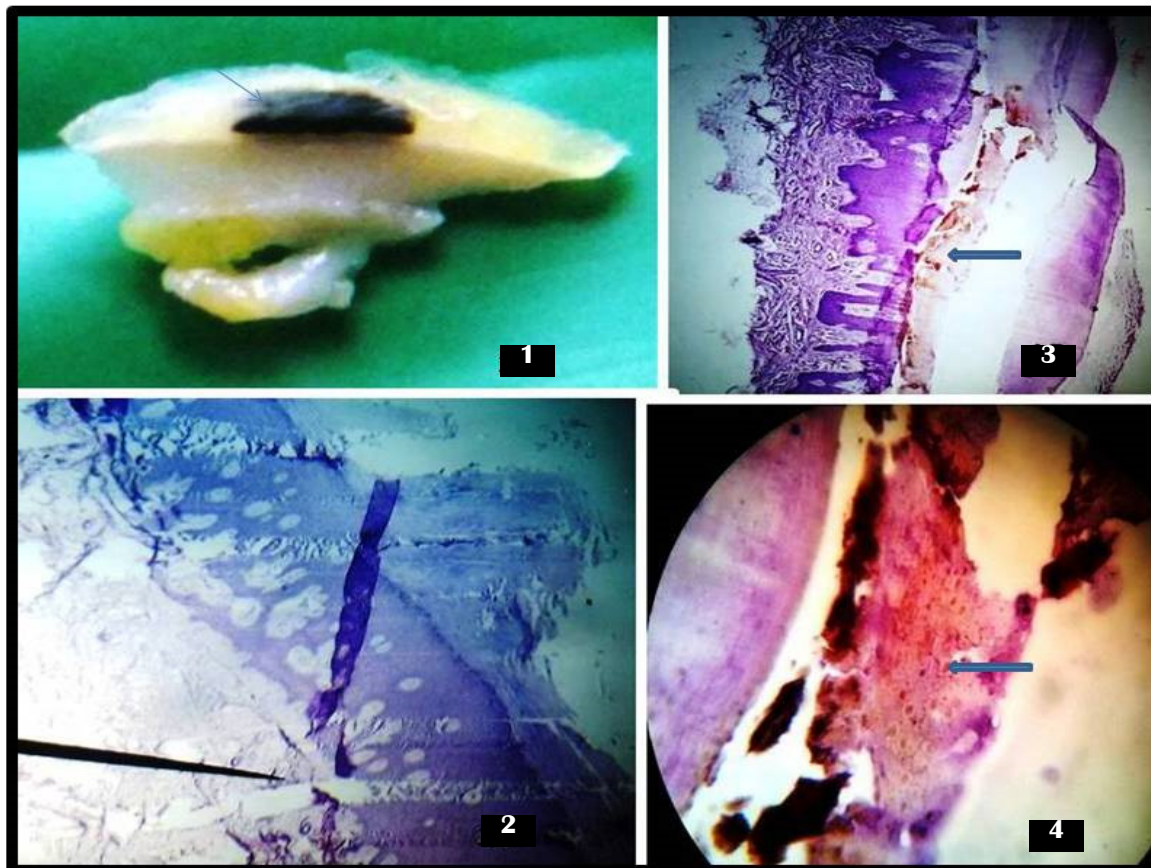
increase in nuclear and nucleolar size, irregular nuclear vacuolization and mitotic figures.

2. Subepithelial inflammatory reaction consisting preponderantly of lymphocytes
3. Cytoplasmic vacuolization and fine melanin pigmentation reaching to the stratum granulosum and stratum corneum.²

In the present case no such proliferation was seen. An increase in pigmentation of the mole recently demands surgical attention and it need not necessarily portend malignant change. It indicates activation of an old or newly formed junctional nevus, or exposure to sunlight, or injury by exogenous agents like thorn, splinters, etc. The pigmentation is the result of melanin being present not only in the junctional cells, but also in the subepithelial chromatophores that are frequently the predominant site of deposition.²

Rarely, an activated junctional nevus will be free of zone of inflammatory cells, which are usually lymphocytes, along

Fig. 1: Excision biopsy of the skin showing pigmented lesion in the superficial portion, Fig 2, 3 and 4: Histopathology of the skin lesion showing vegetable matter in stratum corneum (arrow mark) [H&E, X100]



with some histiocytes, plasma cells, and eosinophils.² According to a study by Rasta *et al.*, among 30% of clinically diagnosed cases of melanoma, none had a histopathological diagnosis of melanoma.³ A study by Laishram *et al.* has reported melanocytic nevi (74.3%) as the most common pigmentary lesion, followed by melanoma (9.8%) and seborrheic keratosis (6%).³

The benign melanocytic entities that can mimic thick melanoma are ancient nevus, balloon cell nevus, cellular blue nevus, combined nevus, compound Spitz nevus, deep penetrating nevus, desmoplastic nevus, and nevus with dermal nodules.^{4,5}

The benign melanocytic entities that can mimic melanoma are acral nevus, genital nevus, halo nevus, junctional/pagetoid Spitz nevus, nevus of infancy, nevus after UV irradiation, pigmented spindle cell nevus, and pseudomelanoma.^{4, 5} In all such cases, careful histopathological evaluation is necessary and it helps in confirming the diagnosis and treating the patients accordingly, avoiding under or over treatment.

Conclusion

Numerous pigmented skin lesions can defy clinical recognition and mimic melanocytic lesions including melanoma. Hence, histopathological evaluation is crucial to avoid overdiagnosis of melanoma and to provide reassurance to patients in benign lesions.

Competing interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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References

1. Costa J, Ibanez KO, Salemi G, Borges V, Carrera C, Puig S, et al. Dermoscopic patterns of melanoma metastases: inter observer consistency and accuracy for metastases recognition. Br J Dermatol Jul 2013;169(1):91-9.
2. Allen AC, Sophie S. Malignant melanoma: a clinicopathological analysis of the criteria for diagnosis and prognosis. Cancer Jun 2006;6(1):23.
3. Laishram RS, Myrthong BG, Laishram S, Shimray R, Kumar AK, Sharma DC. Pigmented skin lesions: are they all of melanocytic origin? A histopathological perspective. J Pakistan Assoc Dermatol 2013;23(3):284-8.
4. Edwards SL, Blessing K. Problematic pigmented lesions: approach to diagnosis. J ClinPathol2000;53:409-18.
5. Rosario RND, Barr RJ, Graham BS, Kaneshiro S. Exogenous and endogenous cutaneous anomalies and curiosities. Am J Dermatopathol 2005;27:259–67.