

# Cyto-histological correlation of spitz nevus

Sir,

Melanocytic nevus group refers to a variety of hamartomatous and/or neoplastic lesions of the skin. Spitz nevus is one of the melanocytic nevi composed of epithelioid and/or spindle cells.<sup>[1]</sup> The cytological features of spitz nevus are distinctive and help in distinguishing it from other benign nevus and malignant melanoma.<sup>[1]</sup> We present cyto-histological correlation of spitz nevus in 1-year-old child and its differential diagnosis.

A 1-year-old infant presented with a red raised lesion on the left cheek for 1-year. Examination revealed a well-defined papule measuring 5 mm × 5 mm with peripheral erythema on the left cheek [Figure 1a]. Provisional diagnosis of pyogenic granuloma, cutaneous leishmaniasis, and spitz nevus were kept. An imprint smear was taken from the lesion for cutaneous leishmaniasis. Imprint smears showed variably sized cells in isolation, groups, and clusters. The cells had round to moderately pleomorphic, eccentric, hyperchromatic nuclei, and fine to coarse reticular chromatin, conspicuous 1–2 nucleoli/macro nucleoli and basophilic cytoplasm [Figure 1b]. Occasional cells showed melanin in the cytoplasm. Few binucleated and multinucleated giant cells were also seen. However, no Leishman donovani (LD) bodies were detected extracellularly or in the giant cells. The imprint was reported as negative for LD bodies and possibility of melanocytic lesion was given.

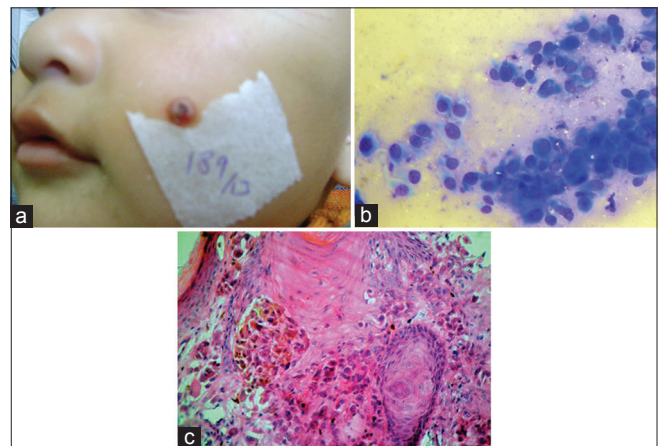
The excision biopsy revealed skin lined by hyperkeratotic stratified squamous epithelium and elongation of rete ridges. Lower half of the epidermis showed nests of large round to epithelioid melanocytes [Figure 1c]. Dermis showed semi-lunar clefts with nests of large epithelioid cells with pleomorphic vesicular nuclei, prominent nucleoli, abundant amphophilic cytoplasm and extra-cellular melanin pigment. Multinucleated cells were also seen. Surrounding stroma showed inflammatory cell infiltrate of lymphocytes, edema, dilated blood vessels and kamino bodies. Deeper dermis showed decrease in size of cells from the top to bottom. There was the absence of mitotic activity or cytological atypia. The histopathological diagnosis of spitz nevus was signed out.

Spitz nevus may be junctional, intra dermal or compound. It is composed of epithelioid and/or spindle cells. The cells show nuclear-cytoplasmic pleomorphism and are surrounded by inflammatory cell infiltrate. These features make differentiation from nodular malignant melanoma very difficult. However, some key architectural patterns are recognized for differentiating these two entities. In spitz nevus, the intraepidermal component does not

extend beyond the dermal component.<sup>[1]</sup> The epidermal component is arranged vertically, and the cells show a little pleomorphism whereas the nests of malignant melanoma are variable in size, shape, and orientation. In spitz nevi with junctional activity, an artifactual semi-lunar cleft separates the nests of nevus cells at dermo-epidermal junction from overlying epidermis.<sup>[1]</sup> Permeation of the epidermis or pagetoid melacytosis by the tumor cells is a common feature of malignant melanoma. However, it may also be seen in spitz nevus characterized by permeation of single or small nests of nevus cells but it is rarely beyond the suprabasal level.<sup>[2]</sup> The overlying epidermis may be hyperplastic, or hyperkeratotic whereas little or no epithelial reaction is seen in melanoma.<sup>[2]</sup>

The cytological features of spitz nevus are distinct and aid in differentiating it from common nevus and malignant melanoma. Spitz nevus is composed of epithelioid cells, spindle cells or combination of both. The cells are large, have large nuclei, delicate chromatin, regular nuclear membranes, prominent nucleoli and abundant amphophilic cytoplasm. The cytoplasm may have melanin.<sup>[3]</sup> The cells of common nevus are smaller than that of spitz nevus whereas malignant melanoma has pleomorphic cells with high mitotic activity.<sup>[3]</sup> Mitotic figures are few in spitz nevus, localized to the epidermis. Presence of >2 mitosis/mm<sup>2</sup> of the dermis may warrant a diagnosis of malignant melanoma.<sup>[3]</sup>

The cyto-histological features of skin lesions are not frequently reported. Herein, we have presented the cyto-histological features of spitz nevus and key features



**Figure 1:** (a) A 5 mm × 5 mm papule with peripheral erythema and central black colored crust on the left cheek (b) Cytology showing variably sized cells in isolation, groups and clusters with round to moderately pleomorphic, eccentric, hyperchromatic nuclei, reticular chromatin, conspicuous 1–2 nucleoli/macro-nucleoli and basophilic cytoplasm (Giemsa, ×40) (c) Skin biopsy showing nests of round to epithelioid cells with pleomorphic vesicular nuclei, prominent nucleoli, abundant amphophilic cytoplasm containing melanin pigment (H and E, ×40)

differentiating it from other benign nevi and malignant melanoma.

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