

Dermoscopy of Cutaneous Mastocytoma

An 8-year-old boy presented with an episodically pruritic, dome-shaped, yellowish to skin-colored papule measuring approximately 6 mm × 5 mm on the right upper chest from the past 6 months [Figure 1]. Stroking the lesion with a blunt object produced a faint perilesional erythema without whealing. The lesion was completely excised, and hematoxylin-eosin analysis revealed diffuse dermal mononuclear cell infiltrate extending into and widening the dermal papillae [Figure 2a]. The cells stained positively with toluidine blue with metachromatic intracellular granules [Figure 2b]. The clinical and histological features were consistent with solitary cutaneous mastocytoma. Dermoscopy under polarized mode revealed a central whitish structureless area with a few reddish spots surrounded by reticulate brownish pigmentary networks on a yellowish background. The periphery of the lesion was formed by a reticulate hyperpigmented rim [Figure 3].

Cutaneous mastocytoma usually occurs as a solitary lesion commonly involving the trunk, neck, and extremities of children. The onset is generally within the first few months of birth but late onset lesions are not infrequent. Typical lesions are yellowish-brown, smooth dome-shaped papules or nodules which may urticate on stroking (Darier's sign). Although a pathognomonic feature, the Darier's sign is seen only in half of the cases.^[1] Vano-Galvan *et al.* delineated four predominant dermoscopic features in cutaneous lesions of mastocytosis which included light brown blot, pigment network (attributable to dermal mast cell infiltrate and basal layer hypermelanization), and yellow-orange blot (attributed to dense papillary and reticular dermal mast cell



Figure 1: A 6 mm × 5 mm yellowish smooth dome shaped papule on the right upper chest

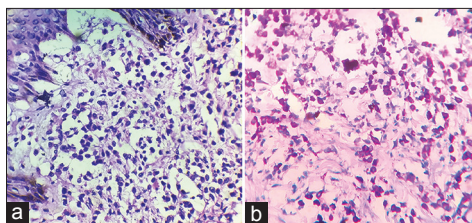


Figure 2: Photomicrograph showing diffuse mononuclear cell infiltrate involving the dermis extending into and expanding the dermal papillae [a, H and E, Original magnification x40]. The cells stained positively with toluidine blue with metachromatic (pink) intracellular granules [b, Toluidine blue, Original magnification x40]

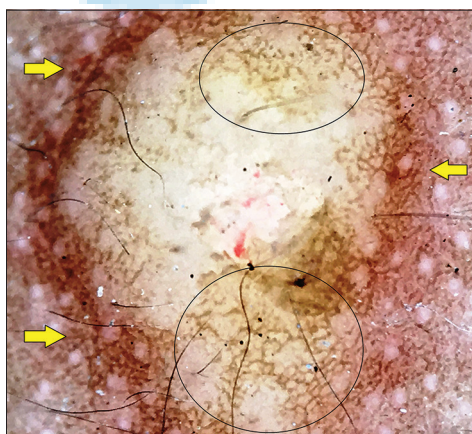


Figure 3: Non-contact dermoscopy under polarized mode using DermLite™ DL3 demonstrated a central white structureless area with a few red dots surrounded by reticulate brownish pigmentary network on a yellowish background (black circles), and a marginal reticulate hyperpigmented rim (yellow arrows pointing). [Original magnification x10]

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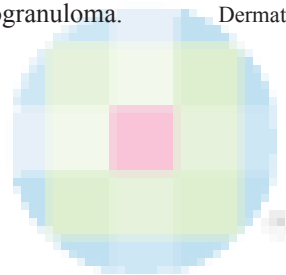


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infiltrate). Among these, the yellow-orange blot was consistently associated with mastocytoma.^[2] In our case, the brown reticulate network on a background of yellowish hue was seen indicative of dense dermal mast cell infiltrate with increased melanization of the overlying basal layer of the epidermis, as evident in Figure 2a. The central pale yellow to whitish structureless area is caused by the accumulation of serosanguineous fluid produced due to excoriation of the epidermis in the centre of the lesion [Figure 1] because of scratching. The linear vessels and red spots in the centre correspond to dilated vessels seen prominently due to excoriation of the epidermis.

Differential diagnoses for such lesions in children include juvenile xanthogranuloma and papular or tuberous xanthomata. Juvenile xanthogranuloma is a close clinical differential diagnosis for mastocytoma. Dermoscopically as well, it exhibits yellow-orange blots, however, the color contrasts typically give a “setting sun” appearance. Additional features include fine interrupted brownish lines and peripheral vascular patterns.^[3] Hence, dermoscopy is a useful investigative tool not only to support the clinical findings of cutaneous mastocytoma but also to differentiate from closer differentials such as juvenile xanthogranuloma.



Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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