

QUIZ SECTION

Brown Nodule on the Lower Eyelid: A Quiz

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A 53-year-old woman presented with a 3-month history of a light-brown plaque measuring 5 × 4 mm on her right lower eyelid (Fig. 1a). There was no history of trauma in the region. The plaque had been enlarging rapidly with occasional pruritus and bleeding.

Dermoscopic examination revealed a papilliform surface with hyperkeratosis. Small, brown and greyish-black

dots were regularly distributed over the whole lesion (Fig. 1b). No dermoscopic findings indicative of melanocytic lesion, seborrheic keratosis, or basal cell carcinoma were observed. Vascular structures were absent. An excisional biopsy was performed.

What is your diagnosis? See next page for answer.

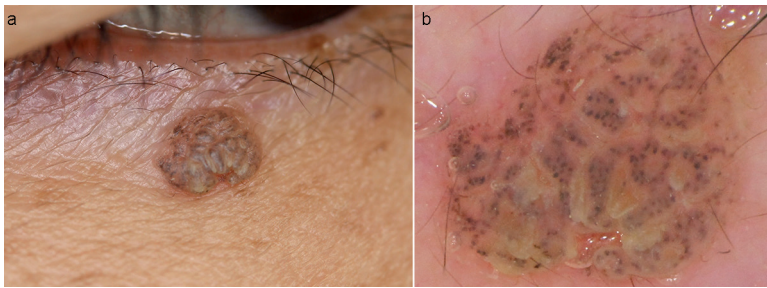


Fig. 1. (a). Slightly elevated, light-brown plaque measuring 5 × 4 mm on the right lower eyelid. (b) Dermoscopically, small brown and greyish-black dots regularly distributed over the whole lesion.

ANSWERS TO QUIZ

Brown Nodule on the Lower Eyelid: A Commentary

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Diagnosis: Lichenoid keratosis

Histopathological examination showed upward extension and acanthosis of the epidermis, which had a hyperkeratotic papillomatous surface (Fig. 2a). The epidermis consisted mostly of squamoid cells without cellular atypia or mitotic figures. Individual degenerated keratinocytes were seen distributed sparsely throughout the epidermis. Band-like infiltration of lymphocytes and plasma cells was observed in the upper dermis, together with a large number of brown granules that corresponded to melanin granules, not hemosiderins, based on the absence of Berlin blue staining (Fig. 2b). The present case was histopathologically diagnosed as lichenoid keratosis (LK).

Also referred to as lichen planus-like keratosis, LK is predominant on the face, trunk and extremities of elderly individuals (1, 2). Lesions typically occur as solitary, slightly elevated erythematous-to-brown plaques, 5–20 mm in diameter. Due to its broad clinical appearance, LK is often clinically misdiagnosed as other cutaneous neoplasms, such as solar keratosis, basal cell carcinoma, Bowen's disease, squamous cell carcinoma, or melanoma. Histopathologically, LK exhibits similar findings to lichen planus in terms of band-like lymphocytic infiltrates in the upper dermis, vacuolar alteration of the basal layer, hypergranulosis, Civatte bodies, and pigment incontinence. Parakeratosis, solar elastosis, and infiltration of eosinophils and/or plasma cells are occasionally detectable in LK, but are rarely seen in lichen planus (3, 4). In this case, lichenoid infiltration of lymphocytes and plasma cells together with pigment incontinence were remarkable. Although the histopathological differential diagnosis included inflamed seborrheic keratosis and viral wart, the diagnosis of LK was established owing to the absence of pseudohorn cysts, epidermal squamous eddies, and koilocytes.

Dermoscopy is a useful non-invasive technique for the correct recognition of LK. LK lesions exhibit a granular pattern under dermoscopy, typified by regularly distributed coarse blue-greyish dots (5–7). This case displayed greyish-coloured dots that suggested melanin granules rather than the vessels or crusts frequently seen in viral warts. Seborrheic keratosis could be preliminarily excluded using dermoscopy based on the absence of characteristic comedo-like openings, milia-like cysts, hairpin vessels with white halo, and fissures and ridges. The regular array of dots seen in the present case was also different from the “peppering” that is

characteristically associated with regressing melanoma; dots in melanoma are finer than those in LK and have a multifocal distribution (5, 6). Moreover, most melanomas display other dermoscopic findings common in melanocytic lesions, such as a pigmented network and brown dots/globules, which are helpful to distinguish melanoma from LK.

The most striking dermoscopic finding in this case was the regular linear array of dots on the papilla. The dots histopathologically corresponded to the melanin granules predominantly distributed in the papillary dermis under the convex of the papilla. In general, LK is considered to represent an immunological or regressive response to seborrheic keratosis or other pre-existing epidermal lesions. Dermoscopically, transformation of seborrheic keratosis to LK during follow-up increases the areas with granular pattern while decreasing the areas specific for seborrheic keratosis (8). Although the dermoscopic and histopathological findings of seborrheic keratosis were not seen in the present case, the characteristic regular linear array of dots on the papilla suggested a possible pre-existing lesion associated with papillomatous change.

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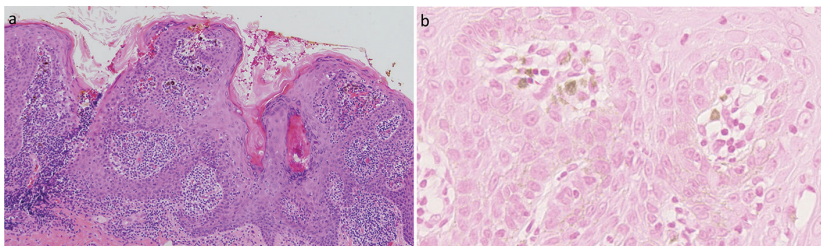


Fig. 2. (a). The epidermis consisted mostly of squamoid cells without cellular atypia or mitotic figures. Band-like infiltration of lymphocytes and plasma cells were found in the upper dermis together with a large number of brown granules. (b) The granules were considered to be melanin due to negative staining with Berlin blue. ((a) Haematoxylin and eosin (H&E) stain $\times 40$; (b) Berlin blue stain $\times 100$).