

A Different Keloid in More Ways than One

A 29-year-old female visited this clinic for a potato-shaped structure gradually growing over a linear keloid on the right upper arm that had developed over a stab injury 16 years ago. The nodular mass had started growing about 4 years ago. On examination, there was a firm linear keloid on the skin over the deltoid with a potato-shaped nodular mass with variable pigmentation growing from its proximal end [Figure 1a]. Recent pain and tenderness were reported. Personal and family history of keloids was absent. The nodular lesion was excised due to pain and tenderness. Hematoxylin and eosin-stained sections showed a thinned-out epidermis with flattened rete ridges [Figure 1b]. The mid- and reticular dermis showed deposition of bundles of hyalinized eosinophilic collagen with few intervening thin-walled capillaries and scattered fibroblasts [Figure 2a]. Overall hypocellularity was significant. Additional Mason trichrome stain highlighted the collagen by its blue color [Figure 2b]. The findings were consistent with the diagnosis of an established keloid. Intralesional triamcinolone 20 mg/ml injections are being given at the periphery of the excised lesion to prevent recurrence and the wound has healed satisfactorily with no early signs of regrowth noted after two months. A six-weekly follow up has been advised.

Keloids are benign fibroproliferative skin tumors.^[1] Owing to their propensity to spread beyond the margin of the original wound, gradual growth, common recurrence following excision, and rare spontaneous regression, they have been viewed as quasi-neoplastic tumors.^[1,2] They have been divided into superficial spreading/flat keloids and raised/bulging ones.^[3] They have been described as “regular” with a round shape and clear curving lines, and “irregular” with irregular shapes and lines.^[4] They have also been described as (i) geometric (ovoid, linear, spheroidal and globular), (ii) recognizable (butterfly, dumbbell, propeller, petalloid, botryoid, and reniform) and (iii) irregular (nongeometrical and unrecognizable outlines).^[5] They can be firm to very hard. Site-specific interkeloidal as well as intrakeloidal heterogeneity is known.^[3] Deltoid, presternum, anterior chest, upper back, and earlobe are favored locations for keloid formation.^[5] Keloids as seen in this case, are commonly described over earlobes. Most keloid scars on the deltoid are oriented along the anatomical axis of the upper extremity. Unusually, propellor-shaped keloids are seen where the initial lesion originates from a vaccination site with proximal and distal

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Figure 1: (a) Potato-shaped Keloid occurring at the proximal end of a long-standing linear keloid. (b) H and E 100x: Epidermis with flattened rete ridges, upper and lower dermis replaced by dense, amorphous material.

extensions like two blades of a propellor. Varying number of blades of the propellor and butterfly shape are also described. Dumbbell, butterfly, and crab's claw-shaped keloids over scapula, chest, and shoulder are thought to be determined predominantly by local mechanical factors like stretching.^[3,6] We attribute the transformation of the proximal part of a long-standing linear keloid into such a nodular hard tumour to the same phenomena due to its proximity to the shoulder joint which is constantly in motion.^[3,6]

Keloids are rarely biopsied. However, accuracy of its clinical diagnosis has been reported to be 81% which may prompt clinicians to reconfirm the diagnosis by biopsy as we did.^[7] Dermatofibrosarcoma protuberans, sclerosing fibroma, and keloidal dermatofibroma were ruled out histologically.^[8,9] A need for immunohistochemical studies was not felt owing to the abundant hyalinized collagen with hypocellularity.

In conclusion, we describe a rare presentation of a keloid over the deltoid that can cause clinical confusion.

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

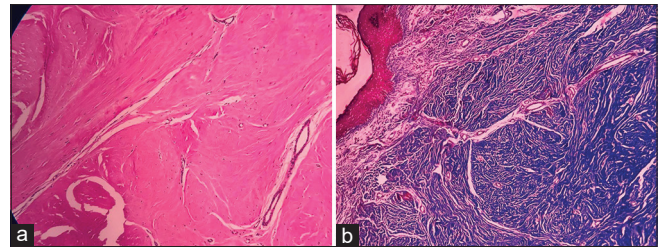


Figure 2: (a) H and E $\times 400$ - Shows hyalinized collagen with intervening thin-walled capillaries and scattered fibroblasts. (b) Masson's Trichrome 100x- Confirming the homogenous blue staining material to be collagen.

be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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