SkIndia Quiz 20

A case of multiple nodules on forearm

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A 55-year-old female patient who presented with asymptomatic, small, dark coloured, raised lesions over the right forearm of eight years duration. These lesions gradually increased in size and number to the present state. There was no associated itching, pain or discharge from the lesions. There was no history of any other skin or mucosal lesions or any systemic symptoms. Examination revealed multiple discrete hyperpigmented to dark brown linear plaques and nodules distributed over middle third of right forearm, predominantly over extensor aspect [Figure 1]. An excisional biopsy was performed from a nodule on the right forearm. The histological picture was as seen in Figure 2.

WHAT IS YOUR DIAGNOSIS?

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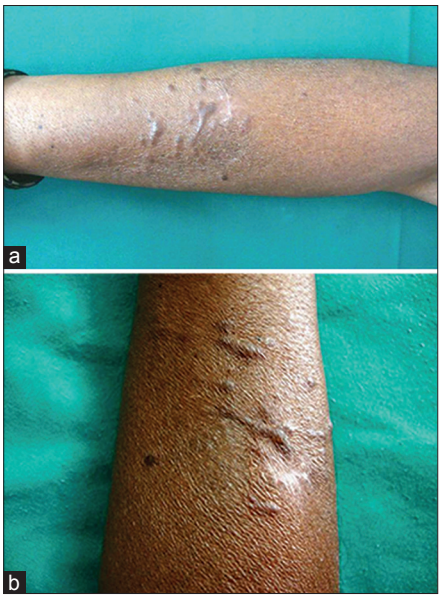

Figure 1: (a) Multiple hyperpigmented to dark brown nodules on right forearm (b) Close up view of the clinical lesions

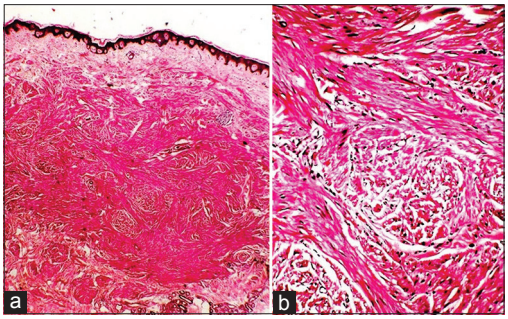

Figure 2: Histopathology revealing (a) Hyperplastic epidermis with a grenz zone and mid dermis lesion composed of spindle cells with elongated hyperchromatic nuclei arranged in interwoven fascicles (H and E, ×10) (b) High power view of the same (H and E, ×40)

ANSWER

Diagnosis: Dermatofibroma

Histopathlogy revealed a well-circumscribed lesion composed of fibroblast-like spindle cells arranged in interwoven fascicles in the mid-dermis. At the periphery, the spindle cells characteristically were wrapped around normal collagen bundles. The cells had eosinophilic cytoplasmic processes with elongated hyperchromatic nuclei with inconspicuous nucleoli. Large numbers of capillaries were present in the stroma. The epidermis was hyperplastic with elongated rete ridges and a grenz zone was present.

DISCUSSION

Dermatofibroma is a benign fibrohistiocytic tumor characterized by proliferation of spindle cells resembling fibroblasts and oval cells resembling histiocytes. It is also known as fibrous histiocytoma, histiocytoma cutis, subepidermal nodular fibrosis and sclerosing angioma. The precise pathomechanism giving rise to these cutaneous nodules is unknown. Recent studies suggest clonal proliferative growth as the main pathogenesis.[1]

Clinically, the lesions are usually asymptomatic firm papules and nodules ranging from 1 to 15 in number, developing more commonly on extremities. Pruritus and pain may be present. On squeezing of the overlying epidermis, there is dimpling due to tethering of skin ("dimple sign"). This sign although not unique to dermatofibroma, is useful in clinical diagnosis. An eruptive form of the disease has been described in immunocompromised hosts, familial cases, malignancies and autoimmune diseases.[2] Dermoscopy is a useful clinical tool and most commonly reveals a peripheral pigment network and central white area.[3]

On histopathology, there is epidermal hyperplasia and increased pigmentation may at times be seen. Dermis shows focal proliferation of cells that resemble histiocytes and fibroblasts with storiform pattern focally. The spindle cell proliferation is seen in whorling fascicles. Excessive collagen deposition with hyalinization may also be seen.

Different clinicopathological variants of dermatofibroma have been described. These include cellular, aneurysmal, pseudosarcomatous and epithelioid. The most common cellular variant has larger lesions and can extend into subcutis mimicking dermatofibrosarcoma protruberans. The aneurismal variant can mimic vascular tumors and on histopathological examination (HPE) has cavernous like pseudovascular spaces. The pseudosarcomatous variant can have various morphologies and may have mitotic figures on HPE. The epithelioid variant can again mimic vascular tumors and have myxoid changes on HPE. An atrophic form has also been described.[4] The rarer ones include ulcerated, erosive and lichenoid forms.

Treatment is warranted only for cosmetically unacceptable or symptomatic lesions. Deep excision, cryosurgery and ablative lasers are the present options.[5]

We had considered a differential diagnosis of scar sarcoid, fibroxanthoma, leoimyoma and histoid Hansen's disease. Dimpling sign was present and histopathology confirmed the diagnosis of dermatofibroma, probably a lichenoid or sarcoid-like form with classical histopathological features. Excision biopsy was done for all lesions.

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