

CASE REPORT

Cutaneous Leiomyoma: Case reports

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ABSTRACT

Cutaneous leiomyomas are rare, benign tumors of the skin, which can present in multiple disseminated, segmental or solitary forms. They are usually painful. Various modalities have been used to relieve pain in such lesions. We present two different types of cutaneous leiomyoma.

INTRODUCTION

Leiomyomas are rare benign tumours of skin presenting as solitary or multiple papules and/or nodules.^{1,2} Segmental lesions affect a particular dermatome.^{3,4} The pathogenesis of segmental cutaneous leiomyomatosis is not yet fully known. Two types of segmental manifestation of the autosomal dominantly inherited disease have been postulated. Type 1 reflects heterozygosity for the underlying mutation, with a clinical picture similar to that in a non-mosaic phenotype. In type 2, loss of heterozygosity leads to homo- or hemizygosity, with a pronounced segmental manifestation of lesions in the affected segment^{1,2} Though the exact molecular etiopathogenesis of multiple cutaneous leiomyomas is not known, recent studies have demonstrated the involvement of a classical tumor suppressor gene encoding fumarate hydratase,^{3,4} in the pathogenesis of multiple leiomyomas.

Case 1

A 23-year-old Kuwaiti male presented with a pinkish lesion over his left arm of over 4 months duration (Fig. 1 A). The lesion started as a small lesion but there was a slow and gradual increase in size to about 3x2 cm (Fig. 1 B). There was history

of pain in the lesion after exposure to cold ambient temperature and after emotional stress. There were no other medical complaints. Examination revealed a solitary pinkish non-tender firm nodule with smooth surface over left upper arm. Clinical differential diagnosis proposed include leiomyoma, eccrine spiradenoma and glomus tumour. Baseline laboratory investigations were within normal. Biopsy and histopathological examination were done (Fig. 2 A, B).



Fig. 1 A. Solitary pinkish non-tender firm nodule with smooth surface over left upper arm. **B.** Closeup.

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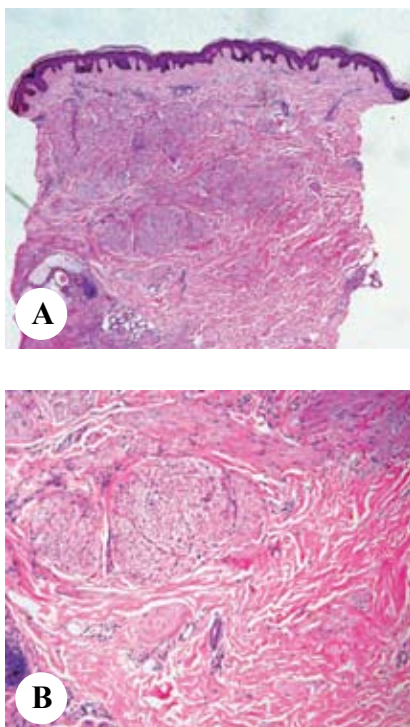


Fig. 2 A, B. H&E section.

Case 2

A 41-year-old Kuwaiti female presented with multiple brownish painful lesions over her left forearm of 9 months duration. It started with few lesions developing almost at the same time and gradually they have increased in number. New lesions continue to develop. Lesions become painful on exposure to cold. There were no other medical complaints. Examination revealed multiple brownish papules and nodules over left forearm, some arranged linearly (Fig. 3 A). The nodules were firm with smooth surface (Fig. 3 B). Clinical differential diagnosis included leiomyomas, eccrine spiradenomas, cutaneous sarcoid and appendageal tumor. Complete physical examination and routine blood tests, in addition to abdominopelvic ultrasonography are within normal limits. Histopathology examination revealed: The characteristic smooth muscle nuclei are elongated with blunt ends, and they are often described as cigar



Fig. 3 A. Multiple brownish papules and nodules over left forearm. **B.** Closeup.

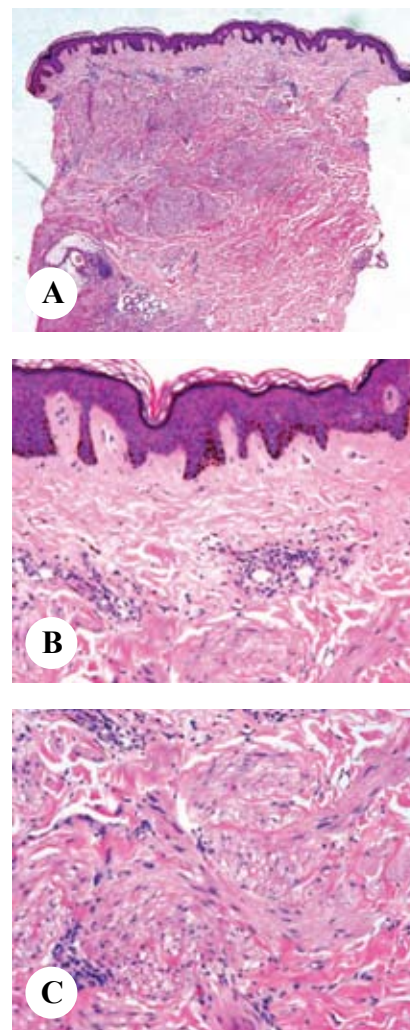


Fig. 4 A, B, C. H&E section.

shaped. Non encapsulated smooth muscle bundles found mainly in reticular dermis, interlaced with variable amounts of collagen (Fig. 4 A, B, C).

DISCUSSION

Leiomyoma is a benign uncommon tumor of smooth muscle derived from arrector pili muscle, media of blood vessels, smooth muscle of scrotum, labia majora, and nipples. There are three types, Pilar, genital (dartoic) and angioleiomyoma.

Pilar leiomyoma is the most common type of cutaneous leiomyoma. It originates in pilomotor muscle. The age of onset is usually in early adult life. Patients with multiple tumors have a familial background. Both the sexes are affected equally. It classically presents as a collection of pink, red or dusky brown firm nodules of varying size, often painful. The pain precipitated by touch, chilling the skin and emotional disturbance. The extremities are the most common site involved. Multiple lesions may be regional and unilateral. Gene that predisposes to multiple pilar leiomyomas has been mapped to chromosome 1q 42.3-q 43. Multiple cutaneous leiomyomas, with inherited predisposition are linked to uterine leiomyoma, and increased incidence of renal cell carcinoma. The treatment consists of surgical excision, which cures the cases with solitary tumour. Treatment of multiple lesions is elusive; they reappear after surgical excision. Various pharmacological options have been tried for alleviating the pain associated with cutaneous leiomyomas. These include calcium channel blockers like nifedipine,⁵ phenoxybenzamine,⁶ doxazocine,⁷ gabapentin,⁸ and topical 9% hyoscine hydrobromide.⁶ Recently, preoperative embolization of these tumours has been used prior to surgical excision, to minimize peroperative blood loss. Estrogen receptors have

been identified in uterine leiomyomata but not in cutaneous leiomyoma. The utility of the herpes simplex virus-thymidine kinase (HSV-TK) plus ganciclovir (GCV) suicide gene-therapy system has been reported by many workers recently to effectively eradicate leiomyoma cells by utilizing the bystander effect phenomena.

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