



## CASE REPORT LEIOMYOMA CUTIS - A SERIES OF 3 CASE REPORTS

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### ABSTRACT

Leiomyoma cutis is a rare benign painful skin tumour characterized by hyperplasia of smooth muscle elements found in the skin i.e. the arrector pili muscle of the hair follicles. These tumours are most commonly seen over extremities and among the subtypes, multiple piloleiomyomas are the commonest. The diagnostic hallmark of this tumour is the pain which may be provoked by physical or emotional factors. We report three cases of leiomyoma for its unusual site of presentation, i.e. breast.

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## INTRODUCTION

Leiomyoma cutis is a rare benign painful skin tumour characterized by hyperplasia of smooth muscle elements found in the skin i.e. the arrector pili muscle of hair follicles. Skin is the second most common location for leiomyoma after the uterus, hosting approximately 5% of all leiomyomas.<sup>1</sup> Besnier classified these tumours as solitary and multiple.<sup>2</sup> Among the 5 subtypes of cutaneous leiomyomas, multiple piloleiomyomas are common.<sup>3</sup> We report three cases of leiomyoma cutis, in which the tumour is solitary, and seen over the breast.

### Case Reports

#### Case 1

A 52-year-old female presented with raised skin lesion over the right breast for a period of 10 years. The lesions were gradually increasing in size and was associated with pain for the past 2 years.

There was no history of antecedent trauma. Examination revealed a single, well defined erythematous plaque of size about 7x4 cm on the upper inner quadrant of right breast. The lesion was attached to the skin, but freely mobile. There was no other lesions elsewhere in the body.

#### Case 1 Clinical Picture

#### Case 2

A 65-year-old lady reported with single painful skin lesion over the left breast for 19 years. She has Type II diabetes and hypertension for the past 10 years. There was a single, well defined, firm arciform plaque of 9x5 cm size, involving lower lateral quadrant of left breast, without any underlying fixation. There was no family history of similar lesions.

#### Case 2 Clinical Picture

#### Case 3

A 67 year old female came with complaints of raised lesions over both breasts for the past 10 years, associated with pain. The lesion was gradually increasing in size. She had been treated with intralesional injections with little improvement.

On examination, she had hyperpigmented plaque of size 7x4cm over right breast in the lower inner and outer quadrants. On the other side the plaque was 10x6cm size occupying entire left breast.

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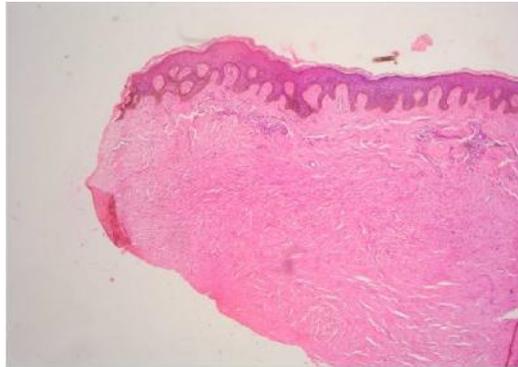
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**Case 3 Clinical Picture**

Skin biopsy of all our patients showed, bundles of spindle shaped cells, interlacing with each other. Thus confirmed our clinical diagnosis of leiomyoma cutis.

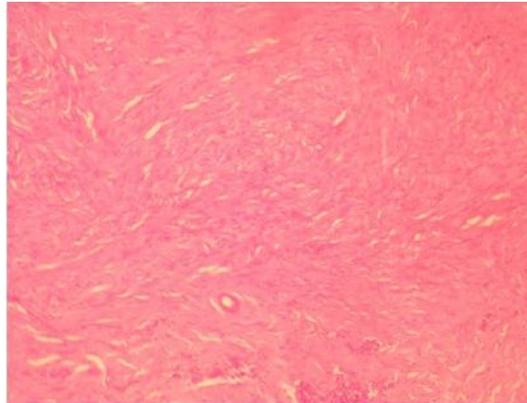


HISTOPATHOLOG  
Y PIC-1 -10X VIEW



Epidermis is normal.  
Dermis consists of  
interlacing bundles of  
smooth muscle cells.

HISTOPATHOLOG  
Y PIC-2 - 40X  
VIEW



Shows interlacing smooth  
muscle cells intermingling  
with surrounding collagen

HISTOPATHOLOG  
Y PIC-3- 40X  
VIEW



Shows smooth muscle cells  
arranged in whorled pattern

## DISCUSSION

Leiomyoma cutis was first described by Virchow in 1854.<sup>4</sup> There are 5 subtypes of this tumour - multiple piloleiomyomas, solitary piloleiomyomas, solitary genital leiomyomas, solitary angioleiomyomas and leiomyomas with additional mesenchymal elements. Multiple piloleiomyomas are small, firm, red or brown intra dermal nodules. Lesions can be arranged in a group or linear pattern or as zosteriform group or in symmetrical distribution. Pain associated with the lesions may be spontaneous or triggered by exposure to cold, pressure, trauma or emotion.<sup>5</sup> Most common sites of predilection are extremities and trunk. They can be associated with uterine leiomyomas, known as multiple cutaneous and uterine leiomyomatosis (MCUL) or Reed's syndrome.<sup>6</sup> Some patient's with MCUL can be associated with rare, and aggressive renal cell carcinoma. This association with renal cell carcinoma, an autosomal dominant condition, is caused by mutations in the fumarate hydratase gene.<sup>7</sup> Although Common in adults, this has been reported in a 10 year old child.<sup>1</sup> Histopathology of Piloleiomyomas show poorly demarcated interlacing bundles of smooth muscle fibres, which intermingle with the surrounding collagen. The smooth muscle fibres consist of centrally located thin, blunt edged 'eel-like' nuclei.<sup>5</sup> Pain in the tumour is due to the distortion, destruction of nerve sheath leading on to ultra structural damage to nerves, and contraction of smooth muscle fibres.

Conditions like keloid, fibrosing basal cell epithelioma, smooth muscle hamartoma, and even malignancy of the breast can be considered as differential diagnosis. Keloid consists of nodules of fibroblastic cells with abundant and glassy eosinophilic and hyalinised collagen fibres. In fibrosing basal cell carcinoma, the lesions will be solitary, flat, indurated yellowish plaque and biopsy shows basaloid cells infiltrating the dermis within the stroma. Smooth muscle hamartomas consists of discrete arrangement of smooth muscle cells in the dermal collagen, in contrast to cutaneous leiomyomas, where the bundles are more circumscribed. Malignancy of the breast can be ruled out by the absence of cellular atypia and mitotic figures.

Individual tumours have to be excised. Analgesics, oral nitroglycerin and nifedipine are all advocated for pain relief. Malignant change of this tumour is rare, but has been reported.<sup>8</sup>

## CONCLUSION

Uncommon features in these three patients are the site and the number of the lesion. Two of our patients had only single tumour and all of them had lesions only over the breast. They can be mistaken for malignancy of the breast. In the literature there are only few reports on solitary breast piloleiomyoma.<sup>2,9</sup> Hence in such lesions histopathology is must to rule out malignancy and to arrive at exact diagnosis.

## References

1. Nursel D. Cutaneous leiomyoma in a child: A case report. *Oncology letters* 2013; 5:1163-64.
2. Prasad PVS. Leiomyoma cutis- A report of 3 cases. *Indian J Dermatol Venereol Leprol* 1992; 58:190-91.
3. S, Cari D. Bilateral segmental leiomyomas: A case report and review of the literature. *Cutis* 2008; 82:33-36.
4. Ross FS. Leiomyomatosis cutis. *N Engl J Med* 1960; 263:1248-50.
5. Lever's Histopathology of the skin 10<sup>th</sup> edition. David E. Elder: Wolters Kluwer/ Lippincott Williams and Wilkins 2009; 1076-79.
6. Jason JE, Shayna S, Stephen EM. Reed's syndrome: A case of multiple cutaneous and uterine leiomyomas. *JCAD online*; 2011.
7. Melissa KF. A case report of hereditary leiomyomatosis and renal cell cancer. *Am J Obstet Gynecol* 2010.
8. Hoyt BS, Tschen JA, Cohen PR. Solitary pilar leiomyoma of the nasal dorsum: Case report and literature review. *Indian J Dermatol* 2015; 60:82-84.
9. Purnima M. Leiomyoma cutis: A clinicopathological series of 37 cases. *Indian J Dermatol* 2010;55(4):337-41.

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