Case Report

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# Extensive Idiopathic Scrotal Calcinosis: A Case Report

Pathology Section

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## ABSTRACT

A 54-year-old male diabetic presented with multiple swellings in the scrotal region with a duration of 15 years, which was initially peanut sized and painless and which gradually progressed to 1-1.5 cm in diameter and more than 100 in number. His haematological and biochemical parameters were within normal limits. Fine needle aspiration of the nodule revealed hypocellular smears with a pale pink to bluish coloured granular material in the background. On microscopy, the sections showed calcified nodules and masses with a peripheral giant cell reaction within the dermis and the subcutaneous tissue, which were positive for the Von Kossa stain. It was reported as Idiopathic calcinosis Cutis – Scrotum. Herewith, we are presenting a rare case of extensive idiopathic scrotal calcinosis.

**Key Words:** Scrotal calcinosis, Idiopathic calcinosis cutis, Calcinosis, Cutaneous calcinosis

## INTRODUCTION

Idiopathic scrotal calcinosis ( also known as "Idiopathic calcified nodules of the scrotum") is a cutaneous condition which is characterized by calcification of the skin, resulting from the deposition of calcium and phosphorus, which occurs on the scrotum [1]. The main dispute in the pathogenesis of this condition is whether it is a dystrophic calcification of the pre-existing structures like epidermal cyst, etc. or whether it is truly idiopathic [2,3].

## CASE REPORT

A 54-year-old male diabetic patient presented with a history of multiple swellings in the scrotal region with a duration of 15 years. The patient was on oral hypoglycaemic agents. The nodules were initially peanut-sized and painless, but they gradually progressed to 1-1.5 cm in diameter. There were approximately 220 nodules. They were tender, without any discharging sinuses. The skin which overlay the nodules was fixed.

## INVESTIGATIONS

1. Complete blood picture - within normal limits
2. Serum and urinary calcium and phosphorus – normal
3. Blood sugar (Fasting and Post-prandial) – within normal limits
4. Fine needle aspiration- It was difficult to penetrate the nodule. The needle entered with a gritty sensation and the granular material was aspirated. The resultant smear was hypocellular with refractile irregular crystals in groups and they were dispersed singly in a haemorrhagic background.

"En Bloc excision of the lesion was done and it was sent for a histopathological examination." The patient's sugar levels were well controlled with insulin at the time of the surgery. There were no local or post-operative complications.

Grossly, the lesion was a grey-brown cauliflower-like skin covered mass which measured 10×8×5 cm. The external surface showed multiple (a total of 220) nodules which varied in size from 5–20 mm.

Microscopy showed nodules in the dermis with an amorphous basophilic material which was surrounded by a foreign body type of giant cell reaction. The rest of the tissue showed focal round cell infiltration. Special staining (Von Kossa's ) showed a dark black granular material within the nodules.

## DIAGNOSIS

A diagnosis of idiopathic Calcinosis Cutis- Scrotum was made. No recurrence was observed in a follow-up period of 6-8 months.

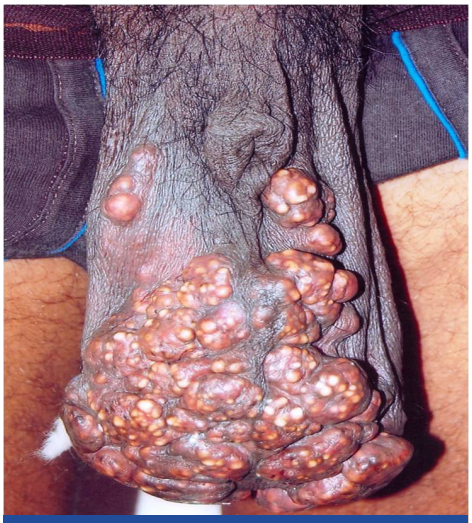
## DISCUSSION

Idiopathic Scrotal Calcinosis ( ISC ) was first described by Lewinsky in 1883 as a subtype of calcinosis cutis [2]. It is a rare and benign condition, the exact incidence of which is not known. The deposition of calcium in the skin, sub-cutaneous tissue, muscles and the visceral organs is known as calcinosis. This condition commonly occurs in the skin, where it is known as calcinosis cutis or cutaneous calcification. Calcinosis cutis has been divided into 4 major types on the basis of the original causes of the symptoms, as dystrophic, metastatic, idiopathic and iatrogenic [4].

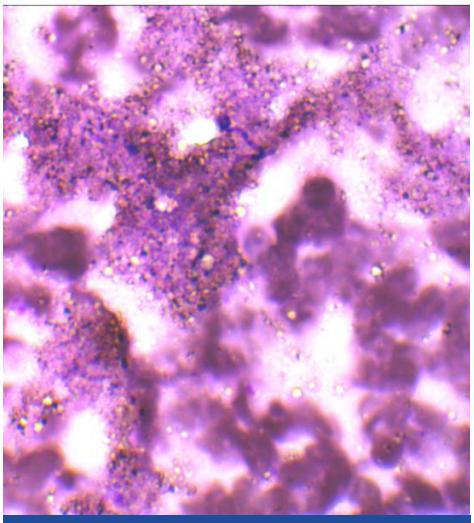
Idiopathic calcinosis cutis occurs in the absence of a tissue injury or a systemic metabolic effect. No causative factor has been identifiable and the calcification is most commonly localized to one general area. Idiopathic calcification of the normal skin has been described in the scrotum, penis, vulva and the breast [5].

Many authors have proposed that scrotal calcinosis represents dystrophic calcification of the pre-existing structures including the epidermal cysts, eccrine duct milia, eccrine epithelial cysts and the degenerated dartoic muscle. In the dystrophic form, the calcium and the phosphorus levels are normal, and there is a local favouring condition that predisposes the calcinosis. It may be observed in connective tissue diseases like scleroderma, dermatomyositis, SLE and secondary to trauma and inflammation [2].

In our case, there was no history of connective tissue disease and trauma and the patient's serum values of calcium and phosphorus were within normal limits. No existing inflammation or epithelial lining was found around the calcified nodules microscopically. Hence, the diagnosis of idiopathic scrotal calcinosis was made.

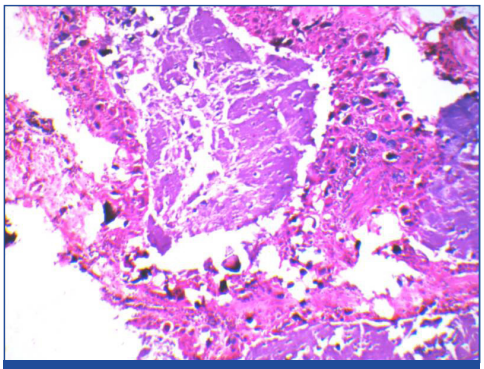


**[Table/Fig-1]:** Multiple scrotal nodules with a buried penis

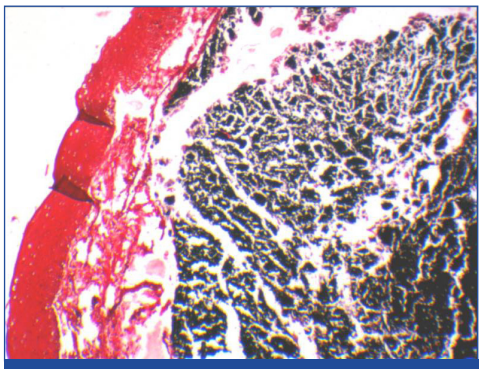


**[Table/Fig-2]:** FNAC showing refractile crystals


**[Table/Fig-3]:** Gross picture showing multiple nodules and cut section of single nodule showing chalky white areas



**[Table/Fig-4]:** Microscopy showing nodule in dermis surrounded by foreign body giant cell reaction



**[Table/Fig-5]:** Von Kossa stain demonstrating black granular deposits of calcium within the dermis

The result of the surgical excision was satisfactory and there was no recurrence in a follow-up period of 6 months. The uniqueness of this case lies in the extensive involvement of the scrotum with 220 nodules, the latest case which has been reported having 51 nodules as was reported by Song et al. [6].

## REFERENCES

[1] http:// en.wikipedia.org/wiki/idiopathic_Scrotal_calcinosis.
[2] Kelten EC, Akbulut M, Colakoglu N, Bayramoglu H, Duzcan SE. Scrotal Calcinosis: is it idiopathic or dystrophic? *Aegean Pathology Journal*. 2005; 2:4-7.
[3] Hicheri J, Badri T, Fazaa B, Zermani R, Kourda N, Jilani SB, et al. Scrotal Calcinosis: Pathogenesis and case report. *Acta Dermatoven APA*. 2005; 4(2):53-56.
[4] http://www.dermnetnz.org/systemic/calcinosis.html.
[5] Kanishwar VS, Waghmare RS, Puranik GV. Calcinosis Cutis in the CREST Syndrome. *Bombay Hospital Journal*. 2010; 52(1):108-110.
[6] Song DH, Lee KH, Kang WH. Idiopathic calcinosis of the scrotum: histopathologic observations of fifty-one nodules. *Journal of the American Academy of Dermatology*. 1990 Jul;23(1):150-51.

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