

Case Report

Case report: Idiopathic Scrotal calcinosis cutis

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ABSTRACT:

Idiopathic scrotal calcinosis is a rare condition characterized by the deposition of calcium salts in the scrotal skin and subcutaneous tissues and it often needs surgical excision. We present a case of idiopathic scrotal calcinosis in a 46 year-old man; detailing the clinical presentation, diagnostic workup, surgery and follow-up. This case highlights the challenges in diagnosing and managing this uncommon condition and emphasizes the importance of considering idiopathic scrotal calcinosis in the differential diagnosis of multiple scrotal nodules.

Keywords: Idiopathic calcinosis, scrotum

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INTRODUCTION

Idiopathic scrotal calcinosis (ISC) is a rare dermatopatho-surgical condition characterized by the deposition of calcium salts in the skin and subcutaneous tissues in the form of multiple intradermal monomorphic nodules without any known systemic metabolic disorder. (1) Pathogenesis of this disease is yet to be discovered. It often presents as multiple firm, painless, rock-hard nodules or plaques over the scrotum. Due to the indolent and painless nature, it may take many years before the patient comes to a clinician and when they do, it is mainly for cosmetic reasons. Differentials include: Solitary genital leiomyomas; which arise from the dartos muscle tissue and appear as single or multiple firm and non-tender pink to red-brown papules but they appear deeper in the tissue than ISC. Other differential to consider is CREST syndrome because calcinosis cutis is seen in 25–40% of the cases which present clinically as hard nodules that may exude white chalky material similar to ISC at fingers and pressure points. (2) Calcified sebaceous cyst can also mimic clinical picture of ISC. Histologically, ISC is characterized by calcium deposits of varying sizes, surrounded by a granulomatous reaction. The pathophysiology of ISC remains a topic of

considerable debate and term "Idiopathic" is used because of the unknown aetiology. Scrotoplasty remains the mainstay of the treatment. Here is a case report of the patient outlining the presentation and management of ISC.

CASE REPORT

A 46-year-old man presented to OPD with scrotal skin lesions. He first noticed nodules on his scrotum 16 years prior to the consultation, which gradually increased in size and number. Physical examination revealed numerous painless, chamois-coloured and white subcutaneous nodules on the scrotal skin, 0.5-1.5cm in size. (Figure 1) The patient had no history of metabolic, endocrine, neoplastic or autoimmune disorders. All biological assessments, including the phospho-calcium balance and bacteriological analyses, were normal. Under spinal anaesthesia, the affected scrotal skin was excised above the Dartos fascia, followed by 2 layer closure of the scrotum. (Figure 2) The patient recovered uneventfully postoperatively. Histological examination of the excised specimen (Figure 3) showed large foci of calcifications, occasionally accompanied by granulomatous inflammatory foci. (Figure 4)



Figure1: Pre-operative image of the patient



Figure2: Post Operative picture of the patient



Figure 3: Excised specimen

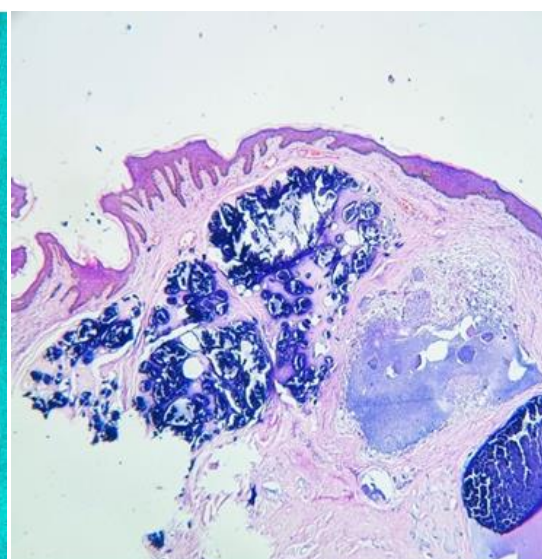


Figure 4: Histopathological picture showing calcium deposition with hematoxylin-eosin staining.

DISCUSSION

Idiopathic scrotal calcinosis is a rare condition with limited treatment options and a variable clinical course. It is commonly seen in young males presenting with yellowish white nodules. This calcification could be metastatic, dystrophic or idiopathic. Metastatic calcinosis is secondary to hypercalcemia or hyperphosphatemia. Dystrophic calcinosis occurs in the dermis in which elastic fibres have been damaged. It occurs in cutaneous tumours, cysts, local trauma, burns and frost bite. Idiopathic calcinosis is used for cases in which the cause is obscure. It can be localized as in familial tumoral calcinosis, subepidermal calcified nodule, dermal calcinosis and idiopathic calcinosis of scrotum, or generalized called calcinosis universalis.(4) Diagnosis is often based on clinical presentation and patients mainly seek medical consultation for cosmetic reasons or itching. Differential diagnoses which include steatocystoma multiforme, angiokeratoma, lipomata,

fibromata, lymphangioma circumscriptum and calcified sebaceous cyst.(3) It is confirmed by histopathological examination of skin biopsy specimens, which typically reveal calcium deposits in the dermis and subcutaneous tissue with areas of calcification along with numerous multinucleated giant cells.(5) Management of idiopathic scrotal calcinosis cutis is challenging and treatment options include conservative measures such as topical or intralesional therapies, surgical excision and systemic therapies such as diltiazem or aluminium hydroxide or CO2 laser. (7) CO2 laser treatment has superior cosmetic outcome as compared to traditional surgery, sparing scrotal tissue with a minor risk of complications and scarring. (8) However, recurrence is common, and long-term follow-up is necessary to monitor for disease progression or complications. Hence, surgical excision and scrotoplasty is curative but recurrence can occur in the remanent skin.

CONCLUSION

Idiopathic scrotal calcinosis is a rare condition characterized by the deposition of calcium salts in the skin and subcutaneous tissues without any known underlying metabolic disorder. Diagnosis is often based on clinical presentation and confirmed by histopathological examination. Management is challenging, and treatment options are limited, with a high risk of recurrence. Long-term follow-up is necessary to monitor for disease progression or complications as well surgery outcome.

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