DOI: https://doi.org/10.4038/jmj.v37i2.251

Case Report

Idiopathic scrotal calcinosis

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Abstract

Idiopathic scrotal calcinosis (ISC) is a rare, benign condition characterized by multiple calcified nodules within the scrotal skin, occurring without systemic or metabolic abnormalities. We report a 44-year-old male who presented with multiple, painless scrotal nodules of four years duration. Laboratory investigations were normal, and radiography revealed multiple calcified lesions. Surgical excision was performed, and histopathology confirmed dermal calcific nodules with chronic inflammation and giant cells, without malignancy. The postoperative outcome was excellent, with no recurrence at six months. This case highlights the importance of histopathological evaluation for accurate diagnosis and effective management of ISC.

Key Words

Scrotal calcinosis, case report, benign condition

Introduction

Idiopathic scrotal calcinosis is an uncommon, benign, and typically asymptomatic condition characterized by multiple calcified nodules confined to the scrotal skin, occurring in the absence of systemic disturbances or underlying metabolic abnormalities. The first case was reported by Lewinski and later reviewed by Shapiro et al. in 1970. The clinical presentation of scrotal nodules warrants consideration of several differential diagnoses, including steatocystoma multiplex, angiokeratoma, fibroma, epidermal cyst, and lipoma. Among the spectrum of calcinosis cutis, idiopathic calcinosis cutis represents a distinct subtype that develops independently of any preceding tissue injury, systemic disease, or metabolic disorder.

Case report

A 44-year-old male presented to the surgical clinic with multiple, painless scrotal nodules that had progressively developed over a period of four years. There was no history of preceding trauma, infection, or any other precipitating event. The nodules were initially soft but gradually increased in both number and firmness. On examination, multiple hard, immobile, non-tender nodules were palpable within the scrotal skin, while both testes were clinically normal. (Figure 1) Laboratory investigations, including inflammatory markers, serum calcium, phosphate, and parathyroid hormone levels, were within normal limits. Plain radiography demonstrated multiple nodular calcifications within the scrotal region, corresponding to the palpable lesions. (Figure 2)

The patient underwent surgical excision of the affected scrotal skin. Histopathological examination revealed dermal nodules composed of calcific deposits surrounded by focal chronic inflammatory infiltrates and multinucleated giant cells, without evidence of dysplasia or malignancy. The postoperative course was uneventful, and the patient achieved an excellent cosmetic result with no recurrence noted at six-month follow- up. (Figure 3)

Fig 1- Clinical photographs of scrotum showing multiple skin nodules.

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June 2025, Accpted Nov 2025

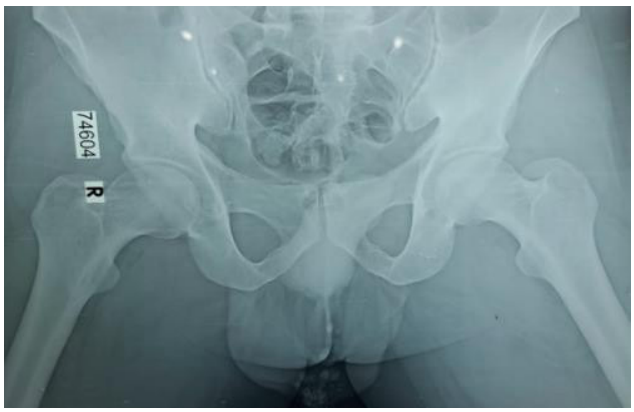

Fig 2- Plain radiography demonstrated multiple nodular calcifications within the scrotal region.

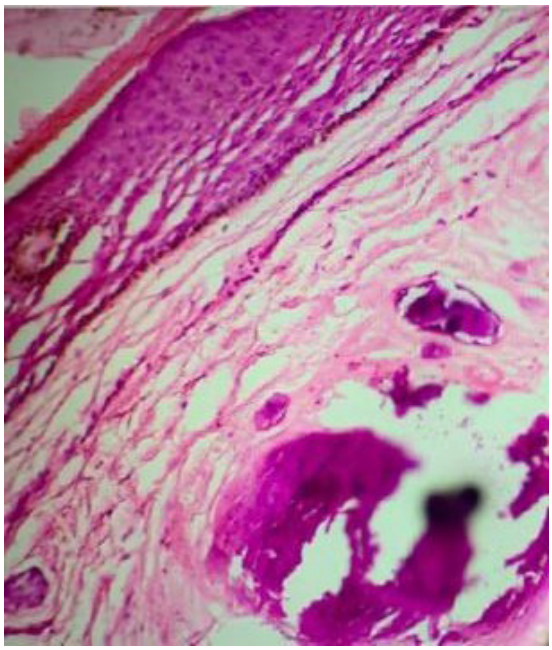

Fig 3- Histopathology revealed dermal nodules composed of calcific deposits surrounded by focal chronic inflammatory infiltrates and multinucleated giant cells, without evidence of dysplasia or malignancy.

Discussion

Idiopathic scrotal calcinosis (ISC) is a rare and benign subtype of scrotal calcinosis that is often misdiagnosed due to its nonspecific clinical presentation. The definitive diagnosis relies on histopathological examination of excised tissue. The exact pathogenesis of ISC remains controversial. One hypothesis suggests that local inflammation triggers increased collagen synthesis around blood vessels and adipose tissue, leading to subsequent calcium deposition. Alternatively, ISC may result from calcium deposition associated with a granulomatous reaction within the dermis (1). Several theories have been proposed regarding its origin whether these calcified nodules represent a truly idiopathic process or arise secondary to dystrophic calcification of epidermal, epidermoid, or eccrine cysts remains debated. In addition, degeneration of the dartos muscle with secondary dystrophic calcification has also been suggested as a possible etiological mechanism (2). The delayed presentation of ISC is attributed to its asymptomatic and slowly progressive nature. Clinically, it manifests as multiple, slow-growing, yellowish scrotal nodules ranging in size from a few millimeters to several centimeters. Occasionally, the lesions may be associated with mild itching or may rupture, discharging a chalky white material. Secondary infection of the nodules is uncommon (3). Diagnosis is primarily clinical and confirmed by histopathological examination. Management options for ISC include observation, medical therapy, laser ablation, cryotherapy, or surgical excision. Although some studies have explored the use of medical treatments such as corticosteroids, diltiazem, sodium edetate, and fibrin phosphate combined with a low-calcium diet, only limited symptomatic improvement has been reported in select cases. (1,3)

This case highlights a rare presentation of idiopathic scrotal calcinosis in a middle-aged male with multiple, painless, calcified nodules confined to the scrotal skin and no associated metabolic abnormalities. Complete surgical excision provided both diagnostic confirmation and definitive treatment, yielding an excellent cosmetic outcome with no recurrence at six months. Awareness of this uncommon benign entity is essential to differentiate it from other scrotal lesions and to guide appropriate surgical management.

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