Cureus
Part of SPRINGER NATURE

Open Access Case Report

Idiopathic Scrotal Calcinosis: A Case Report With Clinical, Dermoscopic, and Histopathological Correlation

Review began 10/10/2026
Review ended 10/26/2026
Published 10/30/2026

© **Copyright** 2026
El Bouhali et al. This is an open access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0., which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

DOI: 10.7759/cureus.118851

Yasmina El Bouhali [1], Ouiame El Jouari [2], Salim Gallouj [1]

1. Dermatology, Centre Hospitalier Universitaire Mohammed VI, Tangier, MAR 2. Dermatology, Abdelmalek Essaâdi University, Tangier, MAR

Corresponding author: Yasmina El Bouhali, yasmina_eldr@icloud.com

Abstract

Idiopathic scrotal calcinosis (ISC) is a rare benign condition characterized by intradermal calcium deposits confined to the scrotal skin, in the absence of calcium-phosphate metabolic abnormalities. Its etiopathogenesis remains controversial, although the most widely accepted hypothesis is dystrophic calcification secondary to degeneration of epidermal or eccrine cysts. We report an illustrative case of ISC presenting as slowly progressive, painless scrotal nodules, with dermoscopy revealing amorphous whitish-yellow areas consistent with calcium deposits. Histopathological examination following excision confirmed the diagnosis, showing compact calcific aggregates embedded in dermal fibrosis and associated with dystrophic cystic remnants, with no evidence of tumor proliferation. This case emphasizes the importance of a broad differential diagnosis, including pilomatricoma, calcified epidermal cysts, adnexal tumors, and, more rarely, cutaneous or testicular metastases, particularly in patients with a history of malignancy. Complete surgical excision remains the treatment of choice, providing both diagnostic confirmation and definitive management, with an excellent prognosis and a low risk of recurrence.

Categories: Dermatology
Keywords: dermoscopy, histopathology, idiopathic scrotal calcinosis, intradermal calcification, scrotum

Introduction

Idiopathic scrotal calcinosis (ISC) is an uncommon benign condition characterized by the development of solitary or multiple calcified nodules within the scrotal dermis, usually in the absence of systemic calcium or phosphate metabolism abnormalities [1,2]. The lesions typically present as firm, painless, whitish-to-yellowish nodules that gradually increase in size and number over several years. Although ISC is most frequently reported in adolescents and young adults, it may also occur in older individuals [3,4].

The pathogenesis of ISC remains controversial. While the condition was initially considered idiopathic, several histopathological studies have suggested that some cases may result from dystrophic calcification of pre-existing epidermal inclusion cysts or other cystic structures [2,5,6]. Other proposed mechanisms include calcification associated with eccrine cysts or degeneration of the dartos muscle [7,8]. Histopathological examination is essential to demonstrate dermal calcium deposits, assess for possible residual cystic structures, and exclude other calcified cutaneous lesions or neoplastic processes [2,5].

The differential diagnosis includes calcified epidermal cysts, pilomatricoma, adnexal tumors, and, in selected clinical contexts, metastatic lesions. Imaging may help establish the superficial location of the nodules, whereas histopathological assessment remains central to the definitive diagnosis [9,10]. We report a case of scrotal calcinosis in a 65-year-old man with a history of laryngeal squamous cell carcinoma, highlighting the diagnostic value of clinicopathological correlation in a patient presenting with a chronic scrotal mass.

Case Presentation

A 65-year-old man with hypertensive who was under follow-up for laryngeal squamous cell carcinoma was referred to dermatology for a painless scrotal mass that had been slowly enlarging over approximately seven years. Clinical examination revealed several polylobulated, firm scrotal nodules adherent to the overlying skin, whitish to yellowish in color, with no inflammatory signs or inguinal lymphadenopathy (Figure *1*). Given this chronic tumoral presentation, several diagnoses were considered: ISC, calcified scrotal pilomatricoma, calcified epidermal cysts, an adnexal tumor, or, more rarely, cutaneous or testicular metastasis. Dermoscopy revealed amorphous whitish-yellow areas corresponding to calcific deposits, with no atypical vascular structures (Figure *2*). Scrotal ultrasonography revealed two well-defined, regularly contoured, superficial scrotal lesions with marked hyperechogenicity and multiple internal calcifications producing prominent posterior acoustic shadowing. No internal vascularity was detected on color Doppler imaging. Serum calcium, phosphate, and parathyroid hormone (PTH) levels were within normal limits, with no evidence of an underlying metabolic abnormality.

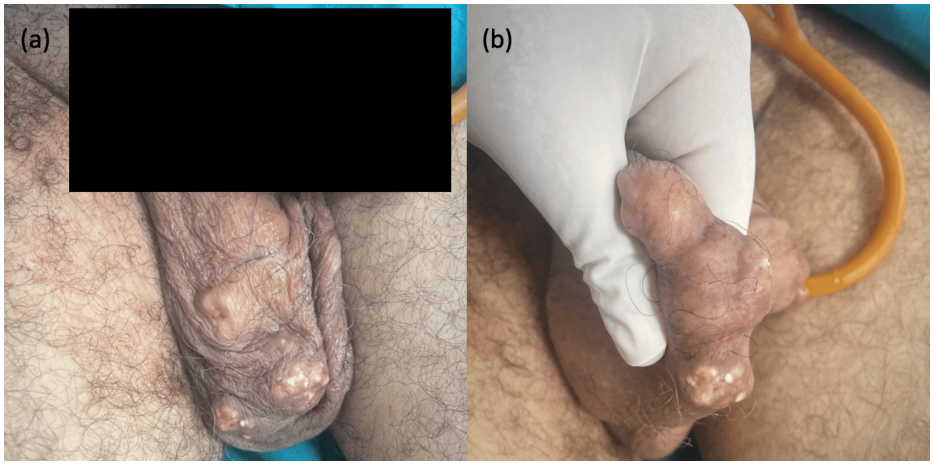


FIGURE 1: Clinical aspects of scrotal nodules.

(a) Overview showing several polylobulated, firm scrotal nodules, whitish to yellowish in color, adherent to the overlying skin, without inflammatory signs.

(b) Close-up view of the nodules during palpation.

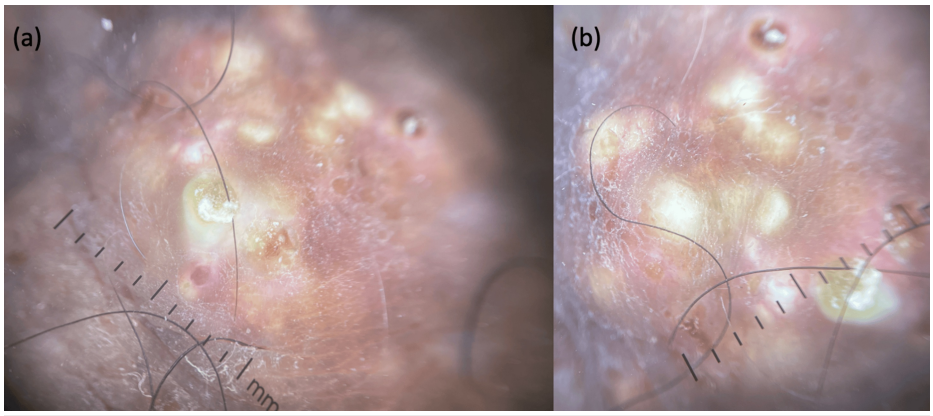


FIGURE 2: Dermoscopic appearances of idiopathic scrotal calcinosis.

(a) Dermoscopy showing amorphous whitish-yellow areas corresponding to calcific deposits, without atypical vascular structures.

(b) Dermoscopic view of a different nodule showing similar amorphous whitish-yellow areas. The scale is shown in millimeters.

A skin biopsy was subsequently performed. Gross examination of the specimen showed a fragment measuring 15 mm in its greatest dimension, consisting of wrinkled overlying skin bearing a few hairs, with a whitish calcific deposit and a reddish cut surface (Figure *3*). Histopathological examination demonstrated nodular dermal fibrosis containing compact calcium deposits associated with dystrophic cystic changes, without granulomas, dysplasia, or tumor proliferation, supporting the diagnosis of ISC (Figure *4*). The patient was then referred to urologists. He subsequently underwent surgical excision, and follow-up was provided by the urology team.

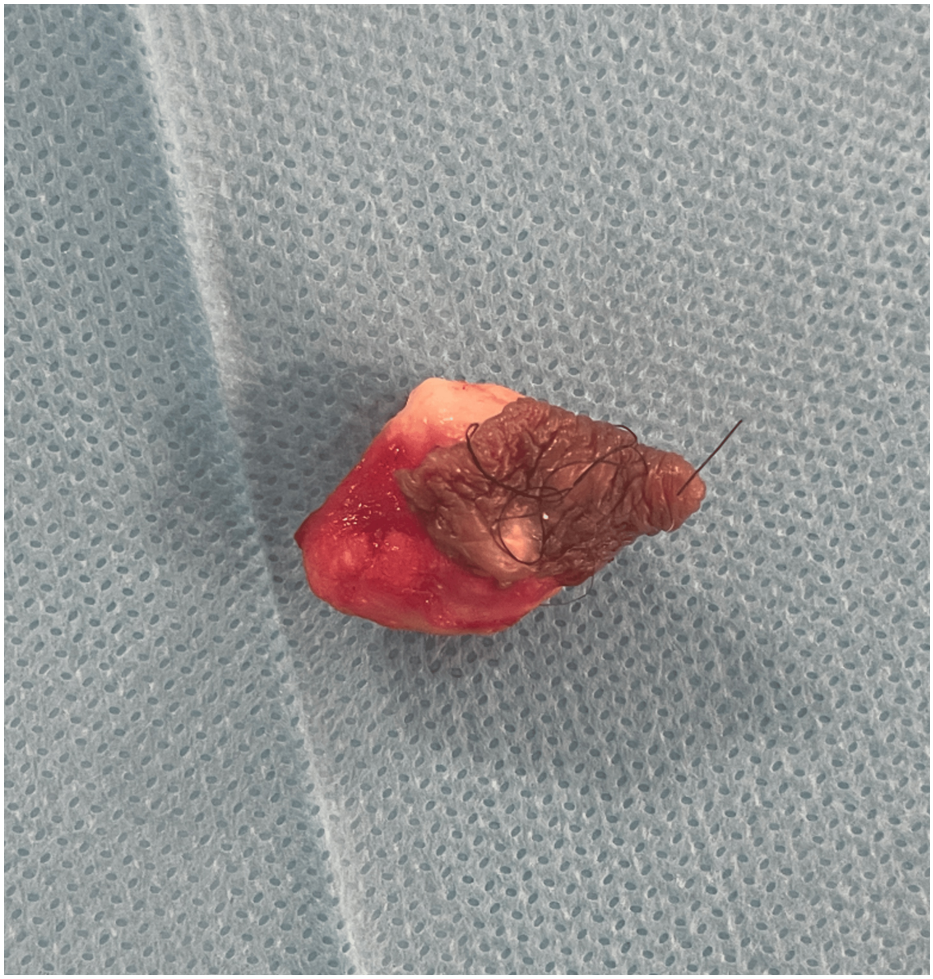


FIGURE 3: The scrotal biopsy specimen.

Gross view of the skin biopsy specimen taken from a scrotal nodule.

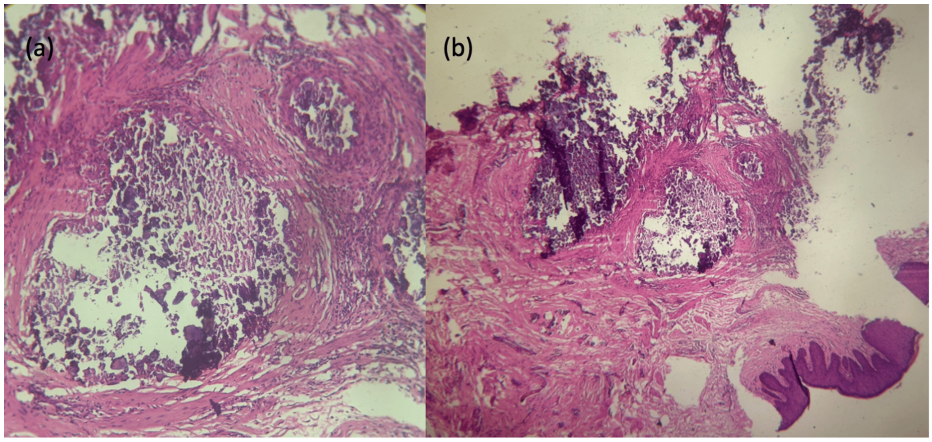


FIGURE 4: Histological appearances of scrotal calcinosis associated with dystrophic cystic changes.

(a) Dermis showing nodular fibrosis containing compact basophilic calcium deposits within cystic spaces (hematoxylin and eosin, ×100).

(b) Another field showing calcific deposits surrounded by dermal fibrosis, with the overlying epidermis visible at the lower right, without granulomas, dysplasia, or tumor proliferation (hematoxylin and eosin, ×40).

Discussion

ISC is a rare benign condition characterized by intradermal calcium deposits confined to the scrotal skin. It was first described in the 19th century and subsequently characterized histopathologically by Shapiro et al.; its pathogenesis remains controversial [1,2]. Although historically considered truly idiopathic, some studies support dystrophic calcification of pre-existing epidermal cysts, whereas others have found no convincing evidence of epithelial remnants around the calcium deposits [2,5,6].

Clinically, ISC usually presents as multiple, painless, slowly enlarging whitish or yellowish nodules. Although it is most often described in younger men, presentation in older patients, as in our 65-year-old patient, is possible [3,4]. In our case, the prolonged, asymptomatic evolution and the firm, polylobulated morphology were consistent with this presentation. Dermoscopy revealed amorphous whitish-yellow areas, which supported the clinical suspicion but could not establish the diagnosis independently.

The differential diagnosis includes calcified epidermal cysts, pilomatricoma, other adnexal tumors, and, in patients with a history of malignancy, metastatic lesions. Ultrasound can help determine whether lesions are superficial or involve deeper scrotal structures; however, histopathological examination remains crucial for confirming the nature of the calcium deposits and excluding neoplastic proliferation [9,10]. In our patient, biopsy showed nodular dermal fibrosis with compact calcium deposits and dystrophic cystic changes, without dysplasia or tumor proliferation.

Complete surgical excision is a commonly used treatment for symptomatic, enlarging, or cosmetically concerning lesions. It provides tissue for histopathological assessment, and recurrence may occur if affected tissue remains. Ablative CO2 laser has also been described as an alternative treatment option. Management should be individualized according to lesion extent, symptoms, and the patient's preference [3,9]. In our case, surgical excision and follow-up were performed by the urology team.

This case highlights the importance of considering scrotal calcinosis in the differential diagnosis of chronic scrotal nodules, including in patients with a history of cancer. Correlation between clinical findings, imaging, and histopathology is particularly important to distinguish this benign condition from other calcified lesions and malignant processes.

Conclusions

ISC is a rare benign condition whose clinical presentation may mimic a variety of benign or malignant scrotal tumors. Diagnosis relies on a close correlation between clinical examination, dermoscopy, and, above all, histopathological analysis, which remains the only method capable of confirming the calcified nature of the nodules and excluding tumor proliferation. Our case highlights the importance of correlating clinical findings, dermoscopy, and histopathology to establish the diagnosis, particularly in patients with a history of malignancy. Complete surgical excision remains the standard treatment, providing both diagnostic confirmation and definitive management, with a favorable prognosis and a low risk of recurrence when resection is complete.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

Concept and design: Yasmina El Bouhali, Ouiame El Jouari, Salim Gallouj

Acquisition, analysis, or interpretation of data: Yasmina El Bouhali, Ouiame El Jouari, Salim Gallouj

Drafting of the manuscript: Yasmina El Bouhali, Ouiame El Jouari, Salim Gallouj

Critical review of the manuscript for important intellectual content: Yasmina El Bouhali, Ouiame El Jouari, Salim Gallouj

Disclosures

Human subjects: Informed consent for treatment and open access publication was obtained or waived by all participants in this study. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

References

1. Shapiro L, Platt N, Torres-Rodríguez VM: Idiopathic calcinosis of the scrotum. Arch Dermatol. 1970, 102:199-204. 10.1001/archderm.1970.04000080071014
2. Song DH, Lee KH, Kang WH: Idiopathic calcinosis of the scrotum: histopathologic observations of fifty-one nodules. J Am Acad Dermatol. 1988, 19:1095-101. 10.1016/s0190-9622(88)70278-9
3. Gormally S, Dorman T, Powell FC: Calcinosis of the scrotum. Int J Dermatol. 1992, 31:75-9. 10.1111/j.1365-4362.1992.tb03239.x
4. Akinboro AO, Onilede DA, Babatunde TO, Oiwoh SO, Suleiman OA, Olabode OP: Idiopathic scrotal calcinosis: report of 2 cases, and review of pathogenesis and factors that determine patients' acceptance of surgical treatment. Clin Cosmet Investig Dermatol. 2018, 11:333-7. 10.2147/CCID.S142101
5. Akosa AB, Gilliland EA, Ali MH, Khoo CT: Idiopathic scrotal calcinosis: a possible aetiology reaffirmed. Br J Plast Surg. 1989, 42:324-7. 10.1016/0007-1226(89)90155-0
6. Wright S, Navsaria H, Leigh IM: Idiopathic scrotal calcinosis is idiopathic. J Am Acad Dermatol. 1991, 24:727-30. 10.1016/0190-9622(91)70110-n
7. Ito A, Sakamoto F, Ito M: Dystrophic scrotal calcinosis originating from benign eccrine epithelial cysts . Br J Dermatol. 2001, 144:146-50. 10.1046/j.1365-2133.2001.03965.x
8. Pabuççuoğlu U, Canda MS, Güray M, Kefï A, Canda E: The possible role of dartoic muscle degeneration in the pathogenesis of idiopathic scrotal calcinosis. Br J Dermatol. 2003, 148:827-9. 10.1046/j.1365-2133.2003.05251.x
9. Pompeo A, Molina WR, Pohlman GD, Sehrt D, Kim FJ: Idiopathic scrotal calcinosis: a rare entity and a review of the literature. Can Urol Assoc J. 2013, 7:E439-41. 10.5489/cuaj.1387
10. Shah V, Shet T: Scrotal calcinosis results from calcification of cysts derived from hair follicles: a series of 20 cases evaluating the spectrum of changes resulting in scrotal calcinosis. Am J Dermatopathol. 2007, 29:172-5. 10.1097/01.dad.0000246465.25986.68