CASE REPORT

Idiopathic scrotal calcinosis: A case report

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Abstract

Idiopathic scrotal calcinosis is formation of calcium deposits in the dermal layers of the scrotum. It results in the formation of single or multiple nodular calcifications that vary in size and number. First reported in 1883, this condition is common in the third decade of life. The presenting complaints range from disfigurement to itching, leading to decreased quality of life. The diagnosis is usually made on a clinical basis and can be confirmed by the histopathology of the excised nodules. Surgical removal of the nodules is the generally recommended treatment. The surgery aims to eradicate the nodules leaving the scrotal skin enough for scrotoplasty.

We present a case of idiopathic scrotal calcinosis in a 37 years old male who came for radiological examination.

Keywords: Calcinosis, scrotum, calcium, pruritus.

DOI: https://doi.org/10.47391/JPMA.6997

Submission completion date: 13-05-2022
Acceptance date: 06-04-2023

Introduction

Idiopathic scrotal calcinosis is a condition recognized by the formation of calcium deposits in the dermal layers of the scrotum. It causes the formation of single or multiple nodular calcifications that vary in size and number.

The first case of idiopathic scrotal calcinosis was reported in 1883; however, Shapiro named it almost a century later.[1] This condition is commonly reported in the third decade of life and is usually considered benign.[2] The presenting complaints range from cosmetic disfigurement because of nodules to intense itching that disturbs the patients' quality of life, both social and personal.[3]

Other symptoms that are often reported include the expression of a chalk-like substance upon pressure and infection in the nodules.[3] There are no metabolic abnormalities in these patients. The calcium, parathyroid hormone, and phosphate levels are within normal limits.[4] Imaging modalities such as CT scans will show calcifications in the scrotal walls. The diagnosis is usually made on a clinical basis and can be confirmed with the histopathology of the excised nodules. It is generally treated by surgical removal of the nodules. The surgery aims to eradicate the nodules leaving the scrotal skin enough for scrotoplasty.

We describe a case of idiopathic scrotal calcinosis in a 37 years old male who presented to us for radiological examination. Patient gave the verbal consent to publish the case without revealing his details.

Case Report

A 37 years old male having multiple painless nodular lesions on the scrotal skin for 7-8 years was presented for ultra-sonographic scrotal examination at the radiology Department of INMOL Cancer Hospital, Lahore in March 2022. Initially, the lesions were smaller but gradually increased in size. The patient gave no history of scrotal trauma or infection. There were no symptoms of fever, weight loss, or anorexia. There was no past history of neoplasm, autoimmune disease, or metabolic disease. The patient had complaints of thick yellowish discharge on compression of the nodules, which converted to a cheese like substance on exposure to air. On physical examination, multiple hard painless nodules were palpated in the subcutaneous plane of the scrotal wall, and the size varied from 4-18mm in diameter. (Figure-1) The nodules were approximately 20 in number. No area of abnormal discharge, ulcer, or draining sinus was observed on examination. No superficial or deep inguinal lymph nodes were appreciated on palpation. The serum calcium, phosphate, and PTH levels were normal on laboratory

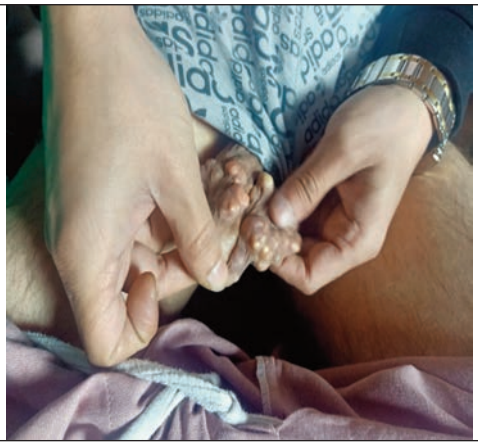

Figure-1: Multiple hard painless nodules in skin.

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examination. Semen analysis revealed normal sperm count and morphology. No significant lab abnormality was seen on CBC, LFT, and RFT. On X-ray examination, multiple variable size heterogenous calcific bodies/nodules were noticed in the scrotum that appeared to be in the scrotal skin. (Figure-2).

An ultrasonographic examination was performed to establish the nature of the calcifications which showed multiple mixed echogenicity nodules (4-14 mm) with internal calcific foci in the scrotal skin, showing no vascularity on colour doppler evaluation. Both testes were normal in size; the volume of the right testes was 14ml, whereas the volume of the left testis was 12.5 ml. No hydrocoele or varicocoele was noted. (Figure-3 a&b). Although this condition is benign, but for cosmetic reasons and on the request of the patient he was referred to a general surgeon for a decision on surgical intervention. A telephonic follow up after two months revealed that the patient had decided not to get operated as he was convinced after being counselled by the general surgeon. Histopathological examination therefore could not be done.

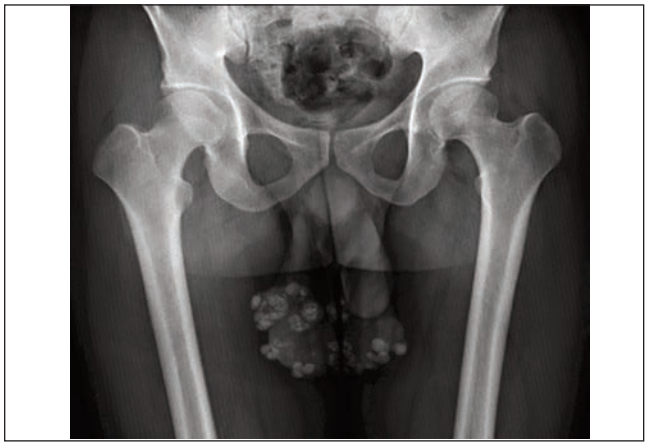

Figure-2: Calcified nodules in the scrotal skin.

Discussion

Scrotal calcinosis occurs mainly in the third or fourth decade of life, but it has been found to affect the paediatric age groups also. Studies show an age range of 9 to 85 years.[4]

Literature shows a predisposition towards dark-skinned people; the reason behind this is unknown.[5] Lesions similar to scrotal calcinosis are also reported to occur in females termed (vulvar calcinosis).[6]

Although a rapid variant of this disease is documented in the literature, that occurred in just three months, but the majority of cases reported, this disease to have developed over several years.[7] This was also the case with our patient that had these lesions gradually increasing in number for eight years. The significant differentials include solitary neurofibromas, steatomas, onchocercoma, lipoma, and fibroma.[8]

It is recommended to get a histological examination after removal of the nodules for confirmation of the diagnosis. In scrotal calcinosis, basophilic calcium deposits surrounded by monocytic or histiocytic inflammation are characteristic findings on histological examination.[9]

The exact process of formation of this calcification is a matter of debate to date. The extra-skeletal depositions are usually termed idiopathic, metastatic, or dystrophic. The controversy lies in the argument of whether any pathogen initiates this process of calcification (dystrophic calcification) or it occurs in perfectly normal testicular skin without any known pathology. (Termed as idiopathic calcification).

Literature shows that the dystrophic process of a preexisting epidermal cyst,[10,11] eccrine duct, or degenerated dartos muscle is the main culprit behind this disease. Most patients present for cosmetic reasons, just

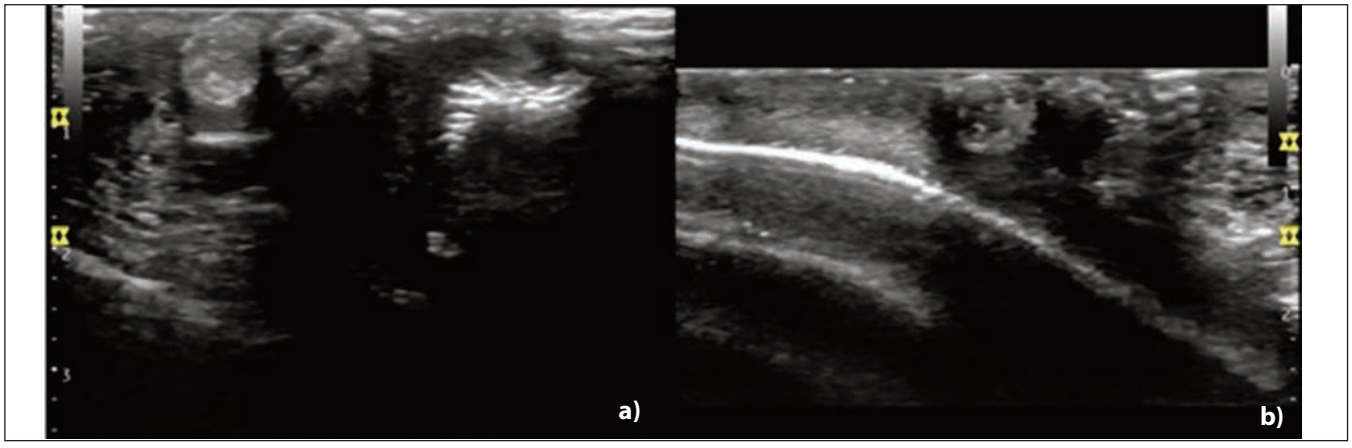

Figure-3 (a & b): Rounded mixed echogenicity nodules in cutaneous planes of scrotum with internal calcific foci.

like our patient. Our patient had the nodules for some years and presented late to us, and this supports the observation of other studies regarding the third decade of life as the typical age group of presentation.

The mainstay treatment is surgery of the diseased skin. Surgery provides excellent results cosmetically and enables the pathological examination of nodules, thus confirming the diagnosis. The disease is usually restricted to the scrotal skin only; hence excision is limited to the skin.[12] Long-term follow-up data is scarce in the literature; however, some studies have shown a higher recurrence rate in long-term follow-up. The risk of recurrence can be minimized by excising all the nodules, even the smallest ones. Patients should be educated about relapses after surgery.

Conclusion

Scrotal calcinosis is a rare entity without any definitive pathogenesis or etiology, most commonly encountered in the third decade of life. Although benign, it can be cosmetically disfiguring to the patient. Surgery is the primary treatment but can have a recurrence in the long-term follow-up period. So, complete excision of all the lesions is of great significance to decrease the likelihood of recurrence. The take away message form this case report is to counsel the patient regarding benign nature of this disease and risk of recurrence after surgery.

Consent: Patients consent was obtained for publishing his case.

Disclaimer: None.

Conflict of Interest: Head of department has signed the letter of approval and he is one of the co-authors.

Funding Disclosure: None.

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