



E-ISSN: 2616-3470

P-ISSN: 2616-3462

© Surgery Science

www.surgeryscience.com

2020; 4(2): 04-06

Received: 04-02-2020

Accepted: 08-03-2020

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Idiopathic scrotal calcinosis- a case series

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DOI: <https://doi.org/10.33545/surgery.2020.v4.i2a.387>

Abstract

Idiopathic scrotal calcinosis is an uncommon benign disorder of the extrascrotal skin which is characterized by multiple calcified intradermal nodules. It is usually asymptomatic and of unclear etiology. Patients often seek treatment for cosmesis. We report a case series of five patients with asymptomatic multiple calcified scrotal skin nodules. They underwent wide excision of the lesions and direct closure of the scrotum. We review the pathogenesis and surgical treatment options for this uncommon entity.

Keywords: Idiopathic Scrotal Calcinosis, Dystrophic calcification, Primary Excision

Introduction

Idiopathic scrotal calcinosis (ISC) was first described in 1883 by Lewinski ^[1]. It was named so by Shapiro *et al* in 1970. The clinical presentation of Idiopathic scrotal calcinosis includes gradual growth of brown-yellow/white, firm solitary or multiple nodules on the scrotal skin. It is mostly seen in adolescence or early adulthood and occurs in the absence of abnormalities in calcium and phosphate metabolism ^[2]. The intradermal nodules tend to increase in size and number over time and can produce a white, chalky material. While these lesions are usually asymptomatic, some patients report pain and itching and there have also been rare reports of infection associated with Idiopathic scrotal calcinosis ^[3]. On histopathology, calcified keratinous material and inflammatory infiltrates without any capsule have been observed ^[4]. Indications for surgery include relief of symptoms and preservation of scrotal cosmesis.

Case Report- We studied 5 patients over a period of 3 years, from January 2017 to January 2020.

Case 1- A 27-year-old male presented with multiple painless lumps on the scrotum since 1 year that gradually increased in size and number. There was no associated pain, discharge or itching. There was no preceding history suggestive of sexually transmitted disease (STD), trauma or fever. He had no co-morbidities. Routine blood investigations including serum calcium were normal. On scrotal examination, multiple nodular lesions involving the ventral surface of the scrotum, sparing other part of the scrotum and the penis. The lesions were not ulcerated or tender. Excision with primary closure was performed. Patient was discharged on day 3 of surgery.

Case 2- A 42 year-old male came with history of multiple scrotal nodules since 5 years that had gradually increased in size and number. No history of scrotal trauma, metabolic, sexually transmitted disease or fever. The increasing number and size of the nodules were affecting his quality of life. He also described increased itching secondary to the lesions. He had no co morbidities. His brother had similar complaints (case 3). On physical examination, the patient was healthy. On scrotal examination there were multiple palpable dark yellow and brown subcutaneous nodules on the scrotum with no tenderness on palpation. His clinical findings were consistent with the working diagnosis of Idiopathic scrotal calcinosis. Laboratory evaluation revealed a normal serum calcium levels. Excision with primary closure was performed. Patient was discharged on day 3 of surgery.

Case 3- A healthy looking, 38 year-old man came to OPD with a history of multiple lumps on his scrotum for 12 years. The condition was mostly asymptomatic with an occasional complaint of itching. There was no history of pain, burning sensation, trauma, ulceration, or discharge.

The lesions did not interfere with urination or sexual activities. He was worried because of the increasing size of the growth and hence came to us for advice. He had no co morbidities. There was history of a similar complaint in his family, his elder brother. On scrotal examination there were multiple palpable brown subcutaneous nodules on the scrotum with punctate white spots no tenderness on palpation. His serum calcium and other blood investigations were within normal limits. Excision with primary closure was performed. Patient was discharged on day 3 of surgery.

Case 4- A 26 year old albino male came to OPD with history of multiple lumps over his scrotum since 3 years. He had no associated pain or complaints of fever, itching or history of trauma. Patient had primarily come for consultation for cosmetic reasons. He had no other co morbidities. On scrotal examination there were multiple palpable white subcutaneous nodules on the scrotum with no tenderness on palpation. His serum calcium were within normal limits. Excision with primary closure was performed. Patient was discharged on day 4 of surgery.

Case 5-A 27-year-old male presented with multiple painless lumps on the scrotum since 1 year that gradually increased in size and number. There was no associated pain, discharge or itching, There was no preceding history suggestive of sexually transmitted disease (STD), trauma or fever. He had no co-morbidities. Routine blood investigations including serum calcium were normal. On scrotal examination, multiple nodular lesions involving the ventral surface of the scrotum, sparing other part of the scrotum and the penis. The lesions were not ulcerated or tender. He had no co morbidities. His serum calcium levels were within normal limits. Excision with primary closure was performed. Patient was discharged on day 3 of surgery.

We observed that the mean age of presentation was 32 years, patients most often presented for cosmetic reasons, itching was the second most common cause of presentation, presentation was painless and was not associated with any infective etiology. All of them had normal calcium levels and no co morbidities. Examination revealed multiple nodules over scrotum, with punctate yellow to white spots on them indicative of underlying calcium deposits. They were non tender, without any associated discharge. Lesions were limited to scrotum, without involvement of shaft of penis.

Treatment plan was surgical. Scrotal skin involved with calcinosis was excised. We were able to close the scrotum primarily in all five cases. There were no post operative complications and patients were discharged. Patients were followed up for 6 months, without any recurrence.



Fig 1: Preoperative image of scrotal calcinosis



Fig 2: Preoperative image of scrotal calcinosis



Fig 3: Intraoperative picture during excision



Fig 4: Intraoperative picture before closure



Fig 5: Post-operative picture of patient 4

Discussion

It is a benign condition, seen in men in the age group of 20-40 years^[5]. However, cases as young as 9 years and as old as 85 years have been described. It occurs in the absence of any systemic disorder of calcium or phosphorus metabolism^[6]. Patients present with history of slow growing yellow- white to brown nodules on scrotum. They may be solitary or multiple. The lesions are usually painless, sometimes associated with itching, not associated with any discharge, although infection and chalky white discharge has been reported^[7]. Patients most often come to the clinician due to cosmetic reasons and discomfort associated with the nodules.

The exact etiology of Idiopathic Scrotal Calcinosis is unknown. Various theories have been postulated, although none have been proven. Some theories include, dystrophic calcification of epidermal inclusion cysts,^[8] dystrophic calcification of dartos muscle^[9], however, idiopathic origin is the most favourable one as most of these cysts don't have any history of inflammation and lack a true epithelial lining^[10]. Treatment involves excision with primary closure. Since the pathology is limited to dermis, excision of scrotal skin alone is sufficient. Recurrence has been reported after primary excision^[11]. Histological evaluation shows calcium deposits with granulomatous reaction^[12]. Topical application of vitamin A and steroids have been tried^[13]. However, surgery remains the mainstay of treatment.

Conclusion

Idiopathic Scrotal Calcinosis is rare benign condition with slow progression. Patient primarily seeks treatment for cosmesis. Surgical excision is the mainstay of treatment.

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