



Idiopathic Calcinosis Cutis of Scrotum: A Rare Case Report, Evaluation and its Surgical Management

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Abstract

Scrotal calcinosis cutis is an uncommon benign disorder of scrotal skin characterized by deposition of multiple intradermal nodules containing calcium. Nodules are painless and may vary in size. In idiopathic calcinosis, there will be normal serum calcium, phosphorus levels with normal parathyroid hormones metabolism. In our case, 48 year old male presents with multiple painless swelling over the scrotum for 2 years duration of varying size of 5 to 30 mm. Provisional diagnosis of multiple sebaceous cysts over scrotum was made. On evaluation, there was no metabolic or systemic abnormalities identified. Patient underwent partial scrotoectomy with complete excision of diseased scrotum including entire lesions. On HPE report, calcinosis cutis of scrotum was established as final diagnosis. Patients presents with multiple lesions over the scrotum with differential diagnosis of multiple sebaceous cysts, calcinosis cutis of scrotum should be included in its evaluation. After thorough evaluation, diagnosis to be considered as calcinosis cutis of scrotum secondary to underlying causes calcification like dystrophic, metastatic, iatrogenic, metabolic or idiopathic. After diagnosis, surgical management of complete excision of diseased scrotum should be considered.

Keywords: Scrotal calcinosis, Calcium, Intradermal calcifications, Scrotal infection, Scrotoectomy.

Introduction

Scrotal calcinosis (SC) was first described by Lewinsky in 1883 as a subtype of calcinosis cutis⁽¹⁾. Idiopathic scrotal calcinosis is an uncommon benign disorder of the scrotal skin characterized by multiple calcified intradermal nodules that occur in the presence of normal calcium and phosphate metabolism. Nodules are painless, hard and may vary in size and number. The main

controversy concerns the pathogenesis of the SC. The main dispute is whether the calcium is deposited at the site of preexisting structures, including epidermal cysts, calcification of eccrine sweat ducts or degenerated dartos muscle or whether the calcified nodules are truly idiopathic. Despite the controversy about the origin of this entity, surgery is the treatment of choice and provides excellent results. Our aim is to report this

rare disease of the scrotum in a 48 year old male and its surgical management.

Case Report

A 48 year old man presented with history of multiple swellings over the scrotum of 2 years duration. The swellings were small in size in the beginning, gradually increasing in size and number. They are nodular lesions and painless. There is no history of trauma and systemic or metabolic or neoplastic or autoimmune disorder. There is no history of previous scrotal trauma, inflammation or infection, family history of similar disease, not on immunosuppressive drugs. There are no features of hypercalcemia. On physical examination, there were multiple about 25 to 30, firm, nodular lesions of varying size between 5 to 30mm present over the scrotum. The underlying testis were normal. The lesions are nontender, no ulcerations or discharge from the scrotal skin. Haematological and biochemical evaluations including serum calcium, serum phosphorus and parathyroid hormone levels were within normal limits. Clinical diagnosis of multiple sebaceous cysts of scrotum was made. On through evaluation, patient planned for surgery. Under spinal anaesthesia, patient underwent partial scrotoectomy with excision of involved scrotal area. The specimen sent for histopathological examination (HPE). The HPE report showed, gross specimen with external surface containing multiple nodules largest measuring 3x1.5x1cm. Cut section showed whitish paste like material. Microscopy section showed epidermis composed of stratified squamous epithelium with subepithelium showing multiple lobules of varying sizes separated by fibrous stroma. These lobules containing basophilic deposits (calcifications) positive for von kossa staining. Stroma shows mild chronic inflammatory infiltrates. With these features, final diagnosis of calcinosis cutis of scrotum was made. Postoperatively patient improved uneventfully. Patient followed up for 6 months, with no recurrence of disease.

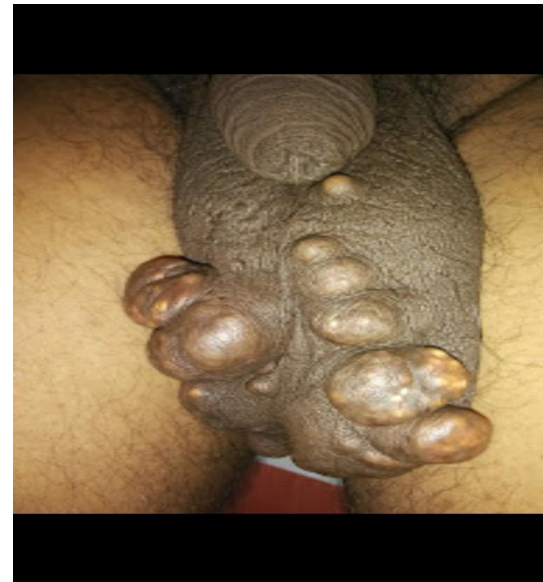


Figure 1. Scrotum with multiple lesions



Figure 2. Lesions with hard painless depositions

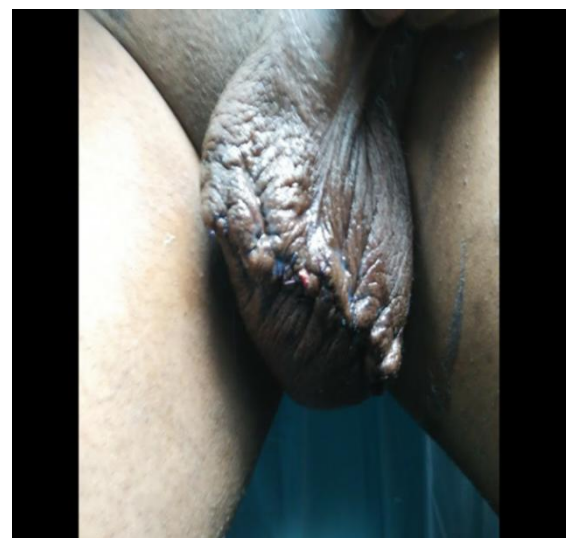


Figure 3. Post operative picture –scrotoectomy

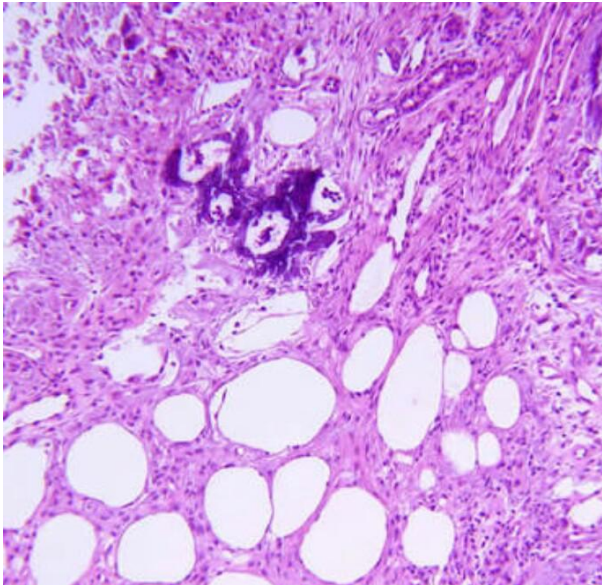


Figure 4: Histopathology picture of calcinosis

Discussion

Calcinosis cutis is a term used to describe a group of disorders in which calcium deposits form in the skin. Scrotal calcinosis is characterized by calcific deposits with surrounding foreign body type granulomatous inflammation in the scrotal skin. Calcinosis cutis is classified into four major types according to etiology: Dystrophic, Metastatic, Iatrogenic and Idiopathic. Idiopathic calcinosis of scrotum was first described by H.M. Lewinsky in 1883⁽²⁾ and then in 1888 by Hutchinson⁽³⁾. Idiopathic SC is a rare and benign condition, appears mainly in men aged 20 to 40 years. Scrotal calcinosis is more common in dark coloured race and affects mainly male but similar lesions (vulvar calcinosis) has been reported in female⁽⁴⁾. The pathogenesis of SC is unclear and controversy exists as to whether the disease is idiopathic or the result of dystrophic calcification of preexisting structures including epidermal cyst, eccrine epithelial cyst, and degenerated dartoic muscle⁽⁵⁾. An idiopathic origin of the disease could still be proposed if there was no history of local or systemic favoring factors and no evidence of epithelial cystic lining⁽⁶⁾. Clinically, SC consists of hard, yellowish nodules within the dermis of scrotal skin. Nodules vary in size (from 1 mm to several centimeters) and number (solitary or multiple). The nodules are usually

asymptomatic and patients seek medical advice mainly for cosmetic reasons. However, in some cases, there might be some heaviness, itching, or discharge from the calcified masses. Clinical diagnostic confusion may arise from other scrotal lesions such as calcified onchocercoma⁽⁷⁾, solitary neurofibromas, ancient schwannomas, steatomas, lipoma, and fibroma. Biopsy for histological examination is necessary to differentiate scrotal calcinosis from such lesions. In scrotal calcinosis amorphous basophilic calcium deposits surrounded by monocyctic or histiocytic inflammation can be seen on histological examination. The main reason patient seek intervention is because of cosmetic concern. Patient with intense pruritus or ulceration will require surgical intervention. Treatment of idiopathic calcinosis of scrotum is limited to surgical excision of the affected scrotal wall. Extensive disease involving the whole scrotum or florid recurrent disease will require complete excision of scrotum with complex scrotal reconstruction. The reconstruction by mesh skin graft or skin flap from groin or medial aspect of thigh. This condition is generally curative and relapses are rare. Indeed, surgical management cures the aesthetic disorder and enables the confirmation of the diagnosis of SC on histologic examination. The diagnosis of scrotal calcinosis is established by histopathological examination of specimen and presence of Von Kossa positive dermal deposits⁽⁸⁾. Therefore, surgical excision must be limited to the scrotal skin because the calcified nodules are localized in the dermis. In our case, there were multiple nodules over scrotum and a partial scrotoectomy was performed. The risk of recurrence is also controversial, and some authors insist on the high probability of recurrence after primary excision⁽⁹⁾. The surgical excision should be complete and must include the excision of all the lesions to control later recurrence.

Conclusion

Idiopathic scrotal calcinosis is rare disease affecting the scrotum. when patient presents with

multiple lesions over scrotal wall, differential diagnosis of scrotal calcinosis should be included during evaluation. Case should be evaluated thoroughly to rule out causes of calcinosis before establishing the diagnosis of idiopathic scrotal calcinosis of cutis. After diagnosis, surgical excision of diseased scrotum is the treatment of choice. If there is extensive disease or recurrence, complete excision of diseased scrotum and reconstruction of scrotum should be considered as ideal choice of management.

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