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Pathology

Idiopathic Calcinosis Cutis Presenting As Multiple Sebaceous Cysts - A Case Study and Review of Literature

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Abstract **Case Report**

We report a case of 41 years old male, medically free presenting with multiple hard nodules of varying sizes in the scrotum for last 18 years. The diagnosis of sebaceous cysts was made initially. The patient underwent day care surgery for the removal of nodules. The diagnosis of scrotal calcinosis was made on histopathological examination of the specimen.

Keywords: Idiopathic calcinosis cutisScrotum.

INTRODUCTION

Scrotal calcinosis is a rare and benign condition, predominantly affecting young men characterized by multiple calcified intradermal nodules that occur in the presence of normal calcium and phosphate levels. The condition presents as several brown to yellowish nodules on the scrotum, gradually progressive, and mostly asymptomatic [1]. Lewinsky was the first one to describe this disease in 1883 as one of the calcinosis cutis subtypes [2].

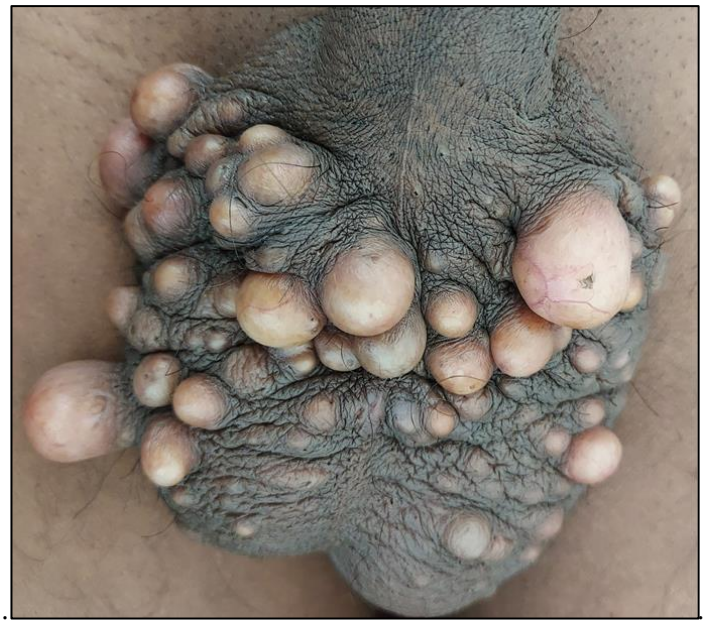

Fig 1: Multiple calcified lesions on the scrotal skin

CASE REPORT

A 41 years old man presented with multiple scrotal swellings over scrotum since 18 years. The swellings gradually increased in size over time, there was no complaint of pain, fever, discharge or bleeding or difficulty in urination. There is no history of diabetes, hypertension, asthma, or any other chronic illness or any trauma.

Physical examination showed multiple swellings of different sizes with no inflammation, infection, or ulceration. No investigation was done.

Differential diagnosis of sebaceous cyst was made. On gross examination, a specimen of partial scrotectomy was received. The excised multi nodular scrotal skin measured 5.5 x 4.5 x 3 cm. On cut section of the each nodule, hard chalky white material was present.

On microscopy, amorphous, deeply basophilic, extracellular, dermal calcium deposits were seen. A foreign body–type inflammatory infiltrate consisting of multi-nucleated giant cells with an associated mixed inflammatory infiltrate surrounds the calcium deposits.

Fig 2: Gross specimen of scrotal skin containing multiple nodules

Fig 3: Cut section of nodule showing calcified areas

DISCUSSION

Cutaneous calcium deposits appear in several different forms. These include metastatic calcification, dystrophic calcification, idiopathic calcification, sub-epidermal calcified nodule. Metastatic calcification occurs most frequently in patients with hyperparathyroidism or chronic renal failure who have abnormal serum calcium and phosphorus levels. In dystrophic calcinosis cutis, calcium deposits develop in areas of previously abnormal skin. The serum calcium and phosphorus levels are normal. As the name implies, idiopathic calcinosis cutis has no known cause. The following two forms are commonly recognized: tumoral calcinosis, in which large, subcutaneous calcified masses are found; and the more common idiopathic calcinosis of the scrotum, in which small calcified nodules develop in scrotal skin. The sub-epidermal calcified nodule presents in childhood as a small, flesh-colored, firm papule on the face. Cutaneous calcification is also seen in immune- associated connective tissue diseases such as dermatomyositis and scleroderma. Idiopathic SC is a rare and benign condition, usually appears in men between 20-40 years of age. Scrotal calcinosis is more common in dark colored race and affects mainly males but similar lesions (vulvar calcinosis) has been reported in females [3]. The question about the etiopathogenesis is not resolved. As scrotal calcinosis is not associated to any metabolic or hormonal disorder, mainly the calcium and the phosphorus metabolism and the parathyroid hormone activity, the idiopathic character was previously approved. Song *et al.*, analyzing more than 50 nodules of scrotal calcinosis, concluded that the common characteristic is a calcified dystrophy of epidermal cysts. This theory was widely recognized after the histological and biochemical evaluation of 100 cases of scrotal calcinosis by Dubey *et al*. Other authors supported the calcified dystrophy of the dartoic muscle, but this theory is less convincing than that of Dubey *et al.*, [4]. Most patients are asymptomatic and present because of cosmetic concern. Few patients may present with pruritus, ulcerations, and discharge of chalky material with occasional superimposed secondary bacterial infection. Clinical diagnostic confusion may arise from other scrotal lesions such as calcified onchocercoma, solitary neurofibromas, ancient schwannomas, steatomas, lipoma, and fibroma [5]. In macroscopic cut, the section shows a white color or yellow color nodule.

Histopathology shows the following classical findings. 1. Presence of calcium deposit in the dermis layer. 2. Presence of multi nucleated giant cells. 3. The absence of the epithelial lining. It also shows amorphous basophilic materials surrounded by foreign body giant cells [6].

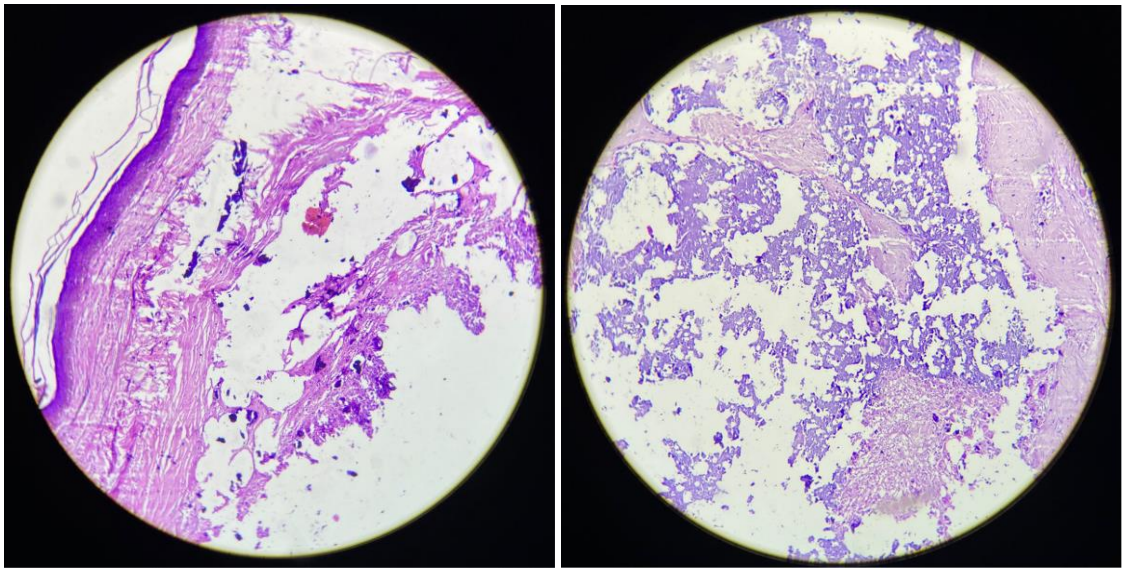

Fig 4 & Fig 5: 10x view showing multiple basophilic calcified material in the dermis

Excision followed by scrotal reconstruction is the treatment of choice. It leaves a good cosmetic result with low chances of re- currence. Even the smallest nodule must be removed to prevent recurrence. In the genitalia, the scrotum is not the only site of idiopathic calcification [1].

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