Scrotal Calcinosis: an Idiopathic Entity?

María R. Bollea Garlatti, Anamá Di Prinzio, Damián Ferrario, Hernán Staiger and Luis D. Mazzuoccolo
Servicio de Dermatología, Hospital Italiano de Buenos Aires. Buenos Aires, Argentina

ABSTRACT

Scrotal calcinosis is a rare, benign disease that presents in middle-aged adults with multiple asymptomatic nodules on the skin of the scrotum. Some authors link the appearance of these lesions to the secondary calcification of epidermal or eccrine cysts. When it is not related to these entities or to alterations in phosphocalcic metabolism, the condition is considered idiopathic. The treatment of choice is surgical, in case of impact on the quality of life or aesthetic relevance for the patient.

Key words: calcinosis, scrotum, benign, idiopathic.

INTRODUCTION

Idiopathic scrotal calcinosis is a specific type of scrotal calcinosis caused by the deposition of insoluble calcium salts in the dermis. It features multiple usually asymptomatic nodules on the scrotal skin without evidence of an underlying causative factor. It is a benign disease, usually underdiagnosed[1], as it can mimic other skin pathologies such as multiple sebaceous cysts. Its definitive diagnosis depends on imaging and histopathology after surgical excision, so it is crucial to suspect it to properly orient the patient who comes to the doctor's office. We present the clinical case of a 34-year-old patient and his approach in our dermatology department.

CLINICAL CASE

A 34-year-old male patient with insulin resistance and hypertriglyceridemia under treatment with metformin and fenofibrate consulted the General Dermatology Department for multiple asymptomatic nodular lesions on the scrotal skin of 10 years of evolution. On physical examination, the left hemiscrotal showed an exophytic lesion of tumor-like appearance, 1 cm in diameter, with a lobulated surface of pink and yellowish color, firm consistency, and net edges, not adhered to deep planes. Accompanying it were multiple small nodular lesions of approximately 5 mm diameter, pink, and covered by healthy skin (Fig. 1). Dermoscopy showed yellowish rounded structures with no other specific features. The differential diagnoses suggested in the initial evaluation were scrotal calcinosis, multiple sebaceous cysts, calcified steatocystomas, osteoma cutis, and, more distantly, nodular scabies.

We requested an ultrasound of the skin and soft tissues, which reported the presence of multiple solid nodules in the dermoepidermal plane, with scarce vascularization, clear borders, and calcified areas inside. We performed an excision of the greatest lesion. In the surgical specimen, multiple yellowish rounded structures of hard elastic consistency and well-defined limits were observed in the dermis (Fig. 2). Histological study showed an unaltered epidermis and in the dermis, the presence of multiple amorphous basophilic calcium deposits, with a granulomatous foreign body type reaction around them.

These findings confirmed the diagnosis of scrotal calcinosis (SC) (Fig. 3).

We mention that we conducted the clinical case described here following the guidelines established by the modified Helsinki Declaration.

DISCUSSION

Idiopathic SC is a rare and benign disorder first described by Lewinski in 1832. It occurs most frequently

Author for corresponse: rocio.bollea@hospitalitaliano.org.ar, Bollea Garlatti MR.

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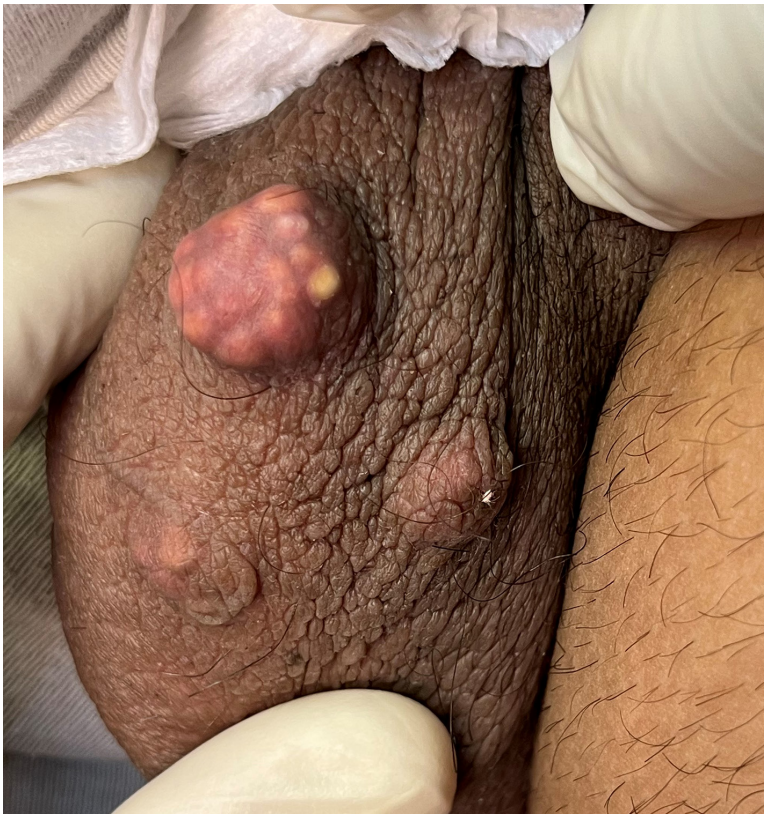

Figure 1. Multiple, firm, painless, subcutaneous nodules in the scrotal skin thickness measuring 3 to 15 mm in diameter.

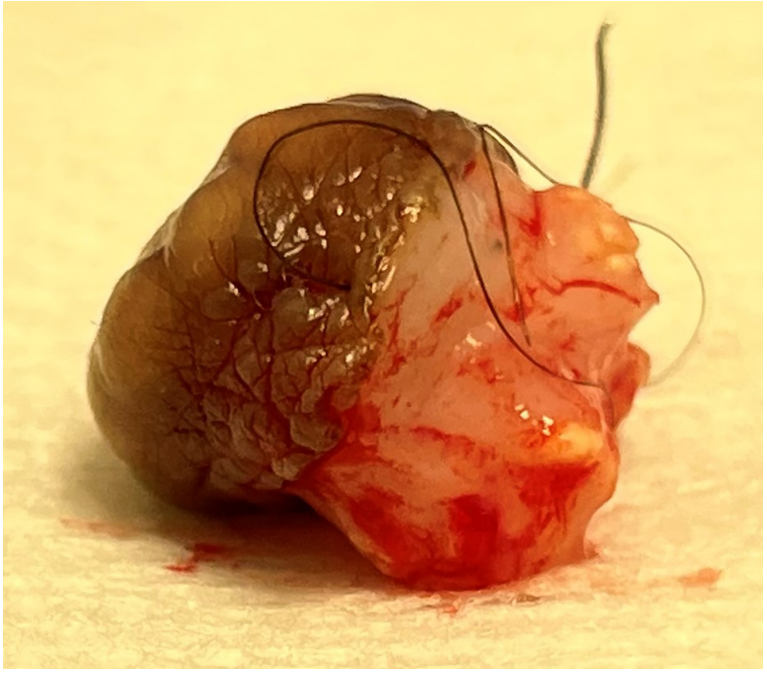

Figure 2. Surgical excisional skin biopsy specimen. There is evidence of multiple yellowish nodules in the dermis.

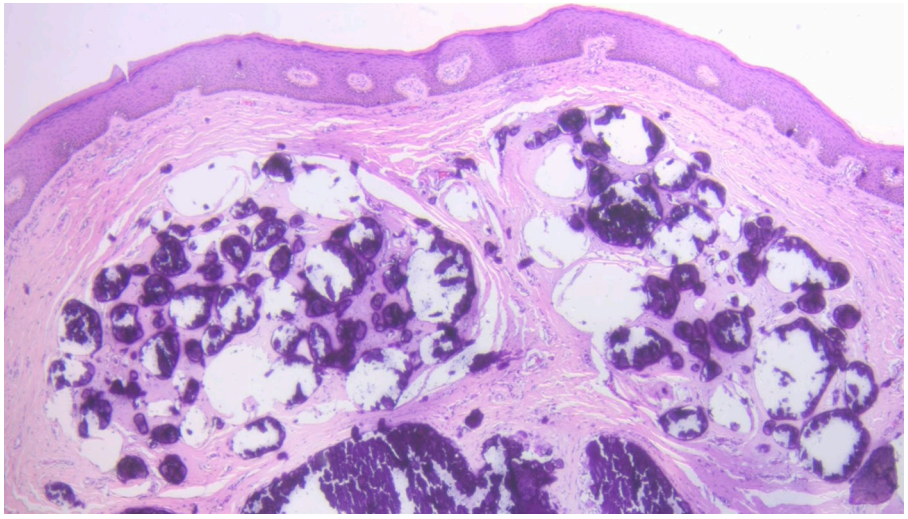

Figure 3. Skin histopathology, with hematoxylin-eosin staining, magnification 4×. The dermis shows multiple amorphous basophilic calcium deposits in the dermis, while the epidermis remains preserved.

in men between 20 and 40 years of age. Its clinical features are firm, yellowish nodules located in the dermis of the scrotum, which vary in size (from 1 mm to several centimeters) and number (solitary or multiple). In most cases, they are usually asymptomatic, and patients consult mainly for aesthetic reasons. However, sometimes, there may be a sensation of heaviness, pruritus, or extrusion of the calcified masses[2-4].

Its underlying pathogenesis is still unclear, and there is controversy over whether the disease is idiopathic or results from dystrophic calcification of pre-existing structures, including epidermal cyst, eccrine epithelial cyst, and degeneration of the dartos muscle[3]. Some authors postulate that degeneration and necrosis of the dartos muscle are the most prominent factors in the progression of this pathology. Others, however, have suggested that minor trauma would play an essential role as a starting point for dystrophic calcification. There is agreement that this entity is not associated with systemic alterations of phosphocalcic metabolism[6,7].

When treating these patients, one of the options is to adopt a wait-and-see approach, with observation and long-term follow-up.

When treatment is required, either for esthetic purposes or symptoms, the main procedure commended is surgical excision. Single-stage excision of lesions has shown adequate results concerning patient satisfaction, improved quality of sexual life, and self-esteem. However, it may not be possible on certain occasions, as the distribution and extent of the nodules are highly variable in terms of their presentation. In cases of extensive disease, reconstruction of the scrotal sac may be required[8].

Our patient did not present any predisposing systemic pathology nor clinical or histologic evidence of epidermal cysts or other concomitant skin alterations, so his condition was interpreted as idiopathic SC.

We believe general practitioners, dermatologists, and urologists must understand this benign disease with esthetic implications to guide patients when deciding on treatment.

Conflicts of interests: the authors declare no conflicts of interests.

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