# Multiple Nodules on the Scrotum

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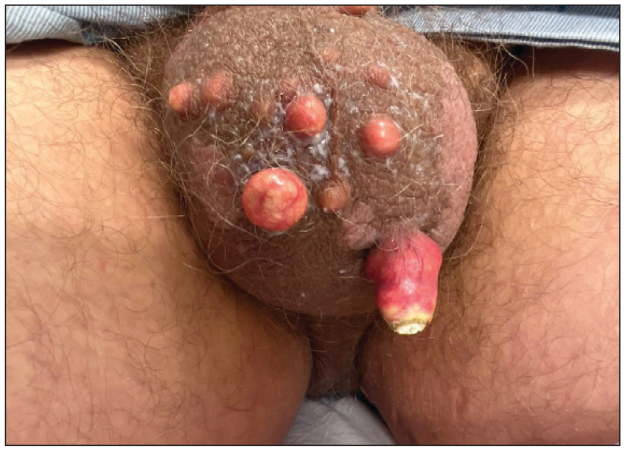

A 33-year-old man presented with progressively enlarging bumps on the scrotum that were present since adolescence. He had a history of hyperlipidemia but no history of systemic or autoimmune disease. The lesions were asymptomatic without associated pruritus, pain, or discharge. No treatments had been administered, and he had no known personal or family history of similar skin conditions or skin cancer. He endorsed a monogamous relationship with his wife. Physical examination revealed 15 firm, yellow-white, subcutaneous nodules on the scrotum that varied in size.

## WHAT'S YOUR **DIAGNOSIS?**

a. calcified steatocystoma multiplex
b. epidermal inclusion cysts
c. eruptive xanthomas
d. nodular scabies
e. scrotal calcinosis

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The authors report no conflict of interest.
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doi:10.12788/cutis.0823

# THE **DIAGNOSIS:** Scrotal Calcinosis

Scrotal calcinosis is a rare benign disease that results from the deposition of calcium, magnesium, phosphate, and carbonate within the dermis and subcutaneous layer of the skin in the absence of underlying systemic disease or serum calcium and phosphorus abnormalities.[1,2] Lesions usually are asymptomatic but can be mildly painful or pruritic. They usually present in childhood or early adulthood as yellow-white firm nodules ranging in size from a few millimeters to a few centimeters that increase in size and number over time. Additionally, lesions can ulcerate and discharge a chalklike exudative material. Although benign in nature, the quality-of-life impact in patients with this condition can be substantial, specifically regarding cosmesis, which may cause patients to feel embarrassed and even avoid sexual activity. This condition rarely has been associated with infection.[1]

Our patient elected to undergo surgical excision under local anesthesia, and the lesions were sent for histopathologic examination. His postoperative course was unremarkable, and he was pleased with the cosmetic result of the surgery (Figure 1). Histopathology revealed calcified deposits that appeared as intradermal basophilic nodules lacking an epithelial lining (Figure 2), consistent with the diagnosis of scrotal calcinosis.[2] No recurrence of the lesions was documented over the course of 18 months.

The pathogenesis of this condition is not clear. Most research supports scrotal calcinosis resulting from dystrophic calcification of epidermal inclusion cysts.[3] There have been cases of scrotal calcinosis coinciding with epidermal inclusion cysts of the scrotum in varying stages of inflammation (some intact and some ruptured).[2] Some research also suggests dystrophic calcification of eccrine epithelial cysts and degenerated dartos muscle as the origin of scrotal calcinosis.[3]

The differential diagnosis for this case included calcified steatocystoma multiplex, eruptive xanthomas, nodular scabies, and epidermal inclusion cysts. Steatocystoma multiplex can be inherited in an autosomal-dominant fashion or can develop sporadically with mutations in the *KRT17* gene.[4] It is characterized by multiple sebum-filled, cystic lesions of the pilosebaceous unit that may become calcified. Calcified lesions appear as yellow, firm, irregularly shaped papules or nodules ranging from a few millimeters to centimeters in size. Cysts can develop anywhere on the body with a predilection for the chest, upper extremities, axillae, trunk, groin, and scrotum.[4] Histologically, our patient's lesions were not associated with the pilosebaceous unit. Additionally, our patient denied a family history of similar skin lesions, which made calcified steatocystoma multiplex an unlikely diagnosis.

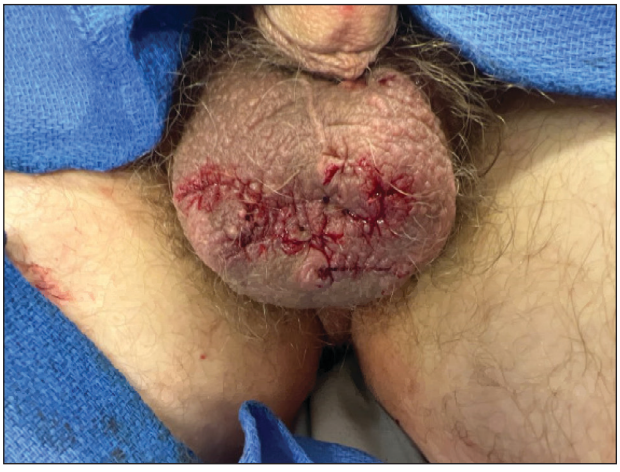

**FIGURE 1.** Surgical repair of the scrotum immediately (same day) following the removal of scrotal calcinosis nodules.

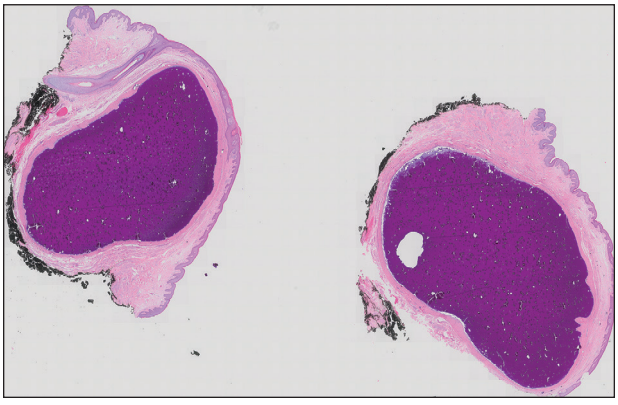

**FIGURE 2.** Histopathology showed basophilic nodules within the dermis (H&E, original magnification ×20).

Eruptive xanthomas result from localized deposition of lipids within the dermis, typically in the setting of dyslipidemia or poorly controlled diabetes mellitus. They commonly appear on the extremities or buttocks as pruritic crops of yellow-red papules or nodules that are a few millimeters in size. Although our patient has a history of hyperlipidemia, his lesions differed substantially from eruptive xanthomas in clinical presentation.

Nodular scabies is a manifestation of classic scabies that presents with intensely pruritic erythematous papules and nodules that are a few millimeters in size and commonly occur on the axillae, groin, and genitalia. Our patient's skin lesions were not pruritic and differed in appearance from nodular scabies.

Although research indicates scrotal calcinosis may result from dystrophic calcification of epidermal inclusion cysts,[2] the latter present as dome-shaped, flesh-colored nodules with central pores representing the opening of hair follicles. Our patient lacked characteristic findings of epidermal inclusion cysts on histology.

The preferred treatment for scrotal calcinosis is surgical excision, which improves the aesthetic appearance, relieves itch, and removes ulcerative lesions.[5] Additionally, surgical excision provides histological diagnostic confirmation. Recurrence with incomplete excision is possible; therefore, all lesions should be completely excised to reduce the risk for recurrence.[3]

## REFERENCES


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