Idiopathic scrotal calcinosis: Is cytological diagnosis enough?

Sir,

Idiopathic scrotal calcinosis is a rare cutaneous disorder which is characterized by painless, hard, asymptomatic nodule(s) in the scrotal skin in the absence of any metabolic disorder. The nodules may vary from 1-2 mm to 2 cm in diameter, and usually appear during childhood or early adulthood. The pathogenesis is still unclear though there are many hypotheses. Fine-needle aspiration cytology (FNAC) can provide insight to the diagnosis although case reports in this area are sparse.

A 36-year-old patient presented in the outpatient department with complaints of multiple, painless subcutaneous nodules in the scrotum region. On enquiry, he revealed that the first lesion appeared 6 years back with new nodules appearing particularly in the last three years. He gave no history of trauma, inflammation or any other previous disease in the scrotum area. Further, besides this crop of scrotal nodules, he had no other complaints. Physical examination revealed multiple (approximately 24) nodules of varying size in the scrotum (Figure 1). The nodules were firm and non-tender, with a few being tense and cystic in nature. Routine laboratory investigations including blood counts, serum calcium, phosphorus and parathyroid hormone were done which were all within normal limits. Fine needle aspiration with a 22-gauge needle from the tense cystic and firm nodules showed an amorphous, chalky aspirate. The smears stained with May-Grunwald Giemsa (MGG) and hematoxylin and eosin (H and E) stain, and showed an amorphous basophilic substance suggestive of calcific deposits. There was no evidence of epithelial cell (Figure 2). The absence of epithelial cells in the aspirate helped to differentiate this condition cytologically from a calcified epidermal cyst.

A clinico-cytological diagnosis of idiopathic scrotal calcinosis was made and a biopsy confirmation was suggested. Under local anesthesia, the larger nodules were removed and sent for histopathological examination. On gross examination, the skin covered nodules had a chalky-white cut surface. Light microscopy revealed lobules of amorphous calcified areas in the dermis with no surrounding epithelial lining. The borders of the lobules were fibrotic; however, no surrounding foreign body reaction was elicited (Figure 3). The calcific foci were confirmed by the Von Kossa stain.

The patient was reassured of the benign nature of the lesion and was discharged. The patient was complaint-free in the 3 month follow-up with no new lesions in the scrotal skin.

Idiopathic scrotal calcinosis is a rare and benign condition.
and was first described by Lewinski in 1883 as a subtype of calcinosis cutis;[3] however, the credit for establishing this as distinct entity should go to Shapiro et al.[1,4] It appears mainly in men aged 20-40 years of age as hard, yellowish nodules varying in number (solitary or multiple) and size (1 mm to several centimeters). They are usually asymptomatic; however, may be complicated with heaviness, itching or discharge.[5] Because of the location and the usual asymptomatic nature, the patients often present late in the disease course.

The pathogenesis of this disorder is hitherto unknown. The possibilities are dystrophic calcification of pre-existing epidermal cysts, eccrine duct milia, eccrine epithelial cysts and the degenerated dartoic muscle. This may also occur in association with connective tissue diseases like scleroderma, dermatomyositis, Systemic lupus erythematosus or secondary to trauma and inflammation.[6]

Tumoral calcinosis is another special type of calcinosis cutis which may or may not be associated with metabolic derangement and other concurrent diseases.

Clinically, the differentials of scrotal calcinosis are epidermal inclusion cyst, steatocystoma, cutaneous horn (actinic keratosis), and other benign tumors, such as lipoma, fibroma, angiookeratoma, and lymphangioma circumscriptum and the diagnosis is usually based on histopathology.[1]

However, FNAC can prove to be a useful tool for diagnosis of this rare disorder. A diagnosis by aspiration cytology may at times be comforting for the patient and the treating physician alike, and can help avoid unnecessary surgery. Reports on this issue are sparse. Shivkumar et al.[7] reported the first case of idiopathic scrotal calcinosis on aspiration cytology. Sherwani et al.[8] and Dombale et al.[6] also described cytological features of scrotal calcinosis. In all these studies, the findings were similar as in our case, and corroborated well with the histopathological features.

Thus, we have described the rare entity of idiopathic scrotal calcinosis in scrotal skin that can be reliably diagnosed by aspiration cytology, which can help avoid unnecessary surgery in less extensive and uncomplicated cases.

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REFERENCES
1. Dubey S, Sharma R, Maheshwari V. Scrotal calcinosis: Idiopathic or dystrophic? Dermatol Online J 2010;16:5.
2. Kelten EC, Akbulut M, Colakoglu N, Bayramoglu H, Duzcan SE. Scrotal calcinosis: It is idiopathic or dystrophic. Aegean Pathol J 2005;2:4-7.
3. Lewinski HM. Lymangioma der Haunt mit verkalktem Inhalt. Virchow Arch Pathol Anat 1883;91:371-4.
4. Swinehart JM, Golitz LE. Scrotal calcinosis. Dystrophic calcification of epidermoid cysts. Arch Dermatol 1982;118:985-8.
5. Khallouk A, Yazami OE, Mellas S, Tazi MF, El Fassi J, Farih MH. Idiopathic scrotal calcinosis: A non-elicited pathogenesis and its surgical treatment. Rev Urol 2011;13:95-7.
6. Dombale VD, Basarkod SI, Kotabagi HB, Farheen U. Extensive idiopathic scrotal calcinosis: A case report. J Clin Diagn Res 2012;6:478-9.
7. Shivkumar VB, Gangane N, Kishore S, Sharma S. Cytologic features of idiopathic scrotal calcinosis. Acta Cytol 2003;47:110-1.
8. Sherwani RK, Varshney BK, Maheshwari V, Rahman K, Khan MA. Idiopathic calcinosis of scrotum: Cytological diagnosis of a case. J Cytol 2008;25:23-4.