Idiopathic Calcinosis of the Scrotum

SALIM A. AL-HARMOZI, M.B.B.Ch., M.Sc.

From : Department of Dermatology & Venereology, Hamad Medical Corporation, Doha, Qatar.

SUMMARY

A 30-year-old single man with multiple scrotal nodules of two year's duration is reported. These nodules showed typical clinical and histopathological features of idiopathic clacinosis of the scrotum. Diagnosis and management of the disease are briefly reviewed.

Case Report

A 30-year old single man presented with a two-year history of asymptomatic, subcutaneous scrotal nodules that had gradually increased in size and number. None of his family members is known to have similar skin lesions. No other complaint was present. The patient was otherwise in good health. Chest, heart, and abdomen were all normal. Neurological examination was unremarkable.

Fig. 1: *Multiple, whitish, firm, globular nodules distributed on scrotal skin.*

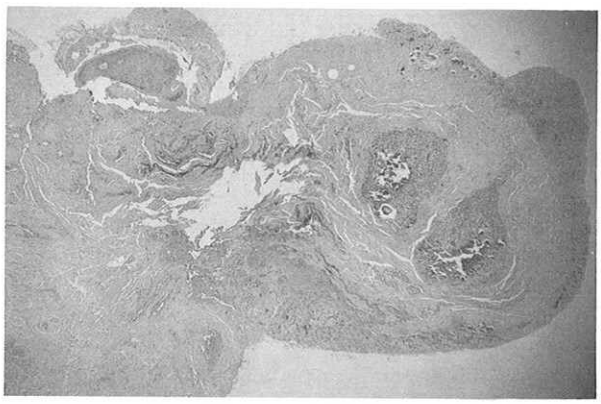

Fig. 2: *Small and large calcified masses in the dermis. No evidence of cysts or epithelial lining.*

Examination of the scrotum showed 20 whitish, firm, globular subcutaneous nodules varying in size form 5mm up to 1cm in diametre distributed on the scrotal skin (Fig.1). The lesions were confined to scrotum.

Investigations

Complete blood cell count, erythrocyte sedimentation rate, urine analysis, liver function test, renal function test, antinuclear antibodies, serum calcium, and serum phosphate were carried out and showed either negative or normal findings.

A skin biopsy was taken, stained with hematoxylin and eosine, and examined histopathologically. The microscopic findings

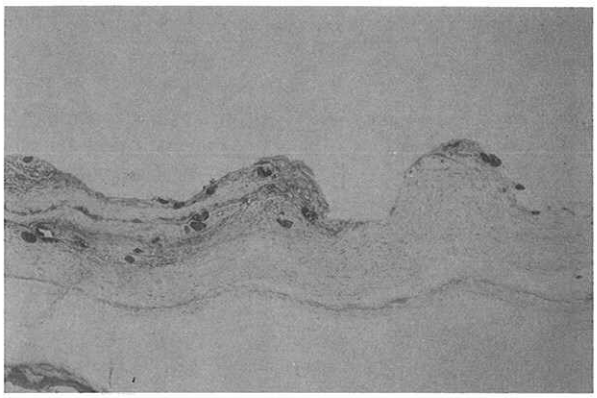

Fig. 3: Von Kossa stain. Strongly positive staining for calcium.

of the biopsy showed faintly staining basophilic and amorphous material. Small and large calcified masses were present in the dermis. There was no evidence of cysts or epithelial lining (Fig. 2). In several places, the calcium was missing. Slight to moderated inflammatory infiltrate was present. The Von Kossa stain was strongly positive for calcium (Fig. 3).

Treatment

Over a period of 10 weeks, all the subcutaneous nodules were excised without difficulty with the use of scissors and cutaneous punch, 4 to 6mm in diametre. During a 12-month follow-up period, no change in the laboratory tests, especially for serum calcium and phosphate, and no new lesions were observed. The cosmetic result was satisfactory (Fig. 4).

Fig. 4: Scrotum six months after surgical treatment.

Discussion

The deposition of calcium in the skin is called calcinosis cutis which is traditionally classified into metastatic, dystrophic and idiopathic calcinosis.

In the metastatic type, the deposition of calcium in the skin occurs because of abnormal high serum levels of calcium or phosphate ions. These increased levels are secondary to metabolic derangement as in primary and secondary hyper-parathyroidism, chronic renal failure, sarcoidosis and bone destruction.[1]

In dystrophic calcification, serum calcium and phosphate levels are normal but the connective tissue is abnormal. This might be found in trauma, foreign body granuloma, neoplasm, degenerative diseases as in pesudo-xanthoma elasticum and Ehlers-Danlos syndrome, and in connective tissue disorders such as dermatomyositis.[2]

Idiopathic calcinosis of the scrotum is an uncommon variety of idiopathic calcinosis for which no apparent cause can be found to explain the calcification.[3] It is characterized by multiple, firm, painless nodules on the scrotum. The nodules vary in size from 0.1mm to 2cm in diametre and may sometimes break down to discharge a chalky material.

The lesions that usually appear during childhood or in early adult life, are not accompanied by any other clinical or laboratory abnormalities. Idiopathic calcinosis of the scrotum may be misdiagnosed clinically as epidermal or pilar cysts.[4] However, it is believed to be a distinct entity differing from other causes of calcification. Also it has a distinct histological finding.[5]

Recently, Jamaleddine[6] reported the first case of the disease in females. The patient presented with a solitary nodule in the genital area that clinically and histologically resembled the nodules described in idiopathic calcinosis of the scrotum. The patient had no

evidence of underlying local disease and no evidence of associated systemic illness. The author believed that this lesion represents a form of idiopathic calcinosis of the skin, and he suggested the name idiopathic vulvar calcinosis as a counterpart to idiopathic calcinosis of the scrotum.[6]

Treatment of idiopathic calcinosis of the scrotum is obviously limited to surgical removal, since no satisfactory medical treatment has been found that would dissolve foci of pathologic calcification without severely demineralizing the bony skeleton.[7] Intralesional steroid therapy may be beneficial in causing dissolution of the calcified intracutaneous deposits.[8]

In fact, the name "idiopathic" is a misnomer, because either a metabolic abnormality or an abnormal matrix must be present for calcium deposition. The name "idiopathic" only admits that the likely cause of calcification remains undiscovered. Therefore, it is wise to follow patients with apparent idiopathic calcinosis of the scrotum to see if they later show signs of connective tissue diseases or abnormal elevation of calcium or phosphate levels.[9]

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Correspondence:
Dr. Salim A. Al-Harmozi, Registrar,
Department of Dermatology & Venereology,
Hamad Medical Corporation,
P .O. Box 3050,
Doha, Qatar.