

Trauma and reconstruction

Successful surgical treatment of extensive idiopathic scrotal calcinosis: A case report

Deheng Cui^{*}, Guoqiang Chen, Jianbin Luo, Chunsheng Liu

Department of Urology, The Second Hospital of Longyan, Longyan, 364000, Fujian, China



ARTICLE INFO

Keywords:

Idiopathic scrotal calcinosis
Surgical treatment
Case report

ABSTRACT

We admitted a 41-year-old man with a chief complaint of multiple nodules found in the scrotum, accompanied by itching discomfort, occasionally some nodules discharged white secretions. Physical examination revealed extensive nodules of scrotal skin, approximately 2.0 cm in diameter in the largest, grayish white, textured hard, no pain, no breakdown of skin. Due to the wide distribution of scrotal nodules in this patient, there was a large deletion in the scrotal skin after intraoperative removal of all nodules; the skin was submitted to V and Z-sutures, and the scrotum was finally successfully reconstructed.

1. Introduction

Scrotal calcinosis is a rare benign disorder of the scrotal skin in which painless papules, nodules, or plaques may be found within or under the skin of the scrotum, appearing as single or multiple, varying in size, firm in texture, and easily palpable, a few patients have an itchy sensation in the scrotal skin, and, at times, nodules may secrete white matter.¹ We present idiopathic scrotal calcinosis with a wide distribution of scrotal skin nodules that underwent multiple intraoperative en bloc excisions with the successful reconstruction of scrotal skin by multiple flap transfers.

2. Case presentation

The patient was a 41-year-old man with a chief complaint of multiple nodules found in the scrotum for more than ten years, clustered by punctate progressive enlargement with the discomfort of pruritus, occasionally some nodules draining white secretions, and no history of treatment. No similar nodules were found in other parts of the body.

Physical examination revealed extensive nodules of the scrotal skin, approximately 2.0 cm in diameter in the largest, greyish white, textured hard (Fig. 1), no pain, no breakdown of skin, mobile mass, no adhesion to scrotal contents, bilateral testes, epididymides, spermatic cords found no abnormalities. The blood's calcium, sodium, and phosphorus were expected, the parathyroid hormone was normal, and the colour ultrasound of the scrotum and CT scan both suggested that the mass was a calcified nodule of the scrotal skin.

Therapeutic measures: The patient had a wide distribution of scrotal nodules; some of them were stacked in clusters, scattered large nodules existed in the lower part of the scrotum, and the principle of surgery was to excise all the nodules and reconstruct the scrotal skin. Before the excision of the mass, planning should be done to design a skin reconstruction protocol and scrotal wound after the excision of the mass. A large deletion was present in the scrotal skin (Fig. 2), which was submitted to v- and z-sutures, with the reconstruction of the scrotum (Fig. 3).

One of the larger specimens was taken for a longitudinal cut, which was more challenging to cut and had a firm texture with an off-white and gritty feeling (Fig. 4). Return of pathologic findings: calcifications with multinucleated giant cell reaction. Postoperative recovery was good, and there was no necrosis of the scrotal flap, no feeling of tightening, and the patient was satisfied with the appearance.

3. Discussion

The possible pathogenesis of idiopathic scrotal calcinosis includes parasites, foreign bodies, and malnutrition. However, most scholars still support the view of idiopathy, as the exact etiology cannot be found in most patients.² Idiopathic scrotal calcinosis is a benign lesion with no underlying metabolic disorders and normal serum calcium, phosphate, and parathyroid hormone levels.³ For the treatment of idiopathic scrotal calcinosis, there are currently medical therapies, follow-up observations, laser or cryotherapy, and surgical treatments.⁴

Due to the rarity of this group of diseases, clinicians should raise

^{*} Corresponding author.

E-mail address: cuideheng2022@163.com (D. Cui).

<https://doi.org/10.1016/j.eucr.2023.102553>

Received 25 August 2023; Received in revised form 3 September 2023; Accepted 5 September 2023

Available online 6 September 2023

2214-4420/© 2023 Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).



Fig. 1. A mass like nodule was seen on the upper portion of the scrotal skin.



Fig. 2. Wound after resection of scrotal skin tumor.



Fig. 3. Reconstructed scrotum.

awareness to make a correct diagnosis on time, plan the extent of resection preoperatively, and design skin reconstruction methods. Since the disease is slowly progressing and benign, for smaller lesions, perhaps laser therapy can be tried.⁵ In addition, the malleability of the scrotal skin is good, and if the mass recurs after many years, an en-bloc resection can still would be performed.

4. Conclusions

Idiopathic scrotal calcinosis is a benign condition that is mostly asymptomatic. It manifests as nodules of different numbers and sizes. Surgical resection is the preferred treatment method with a good

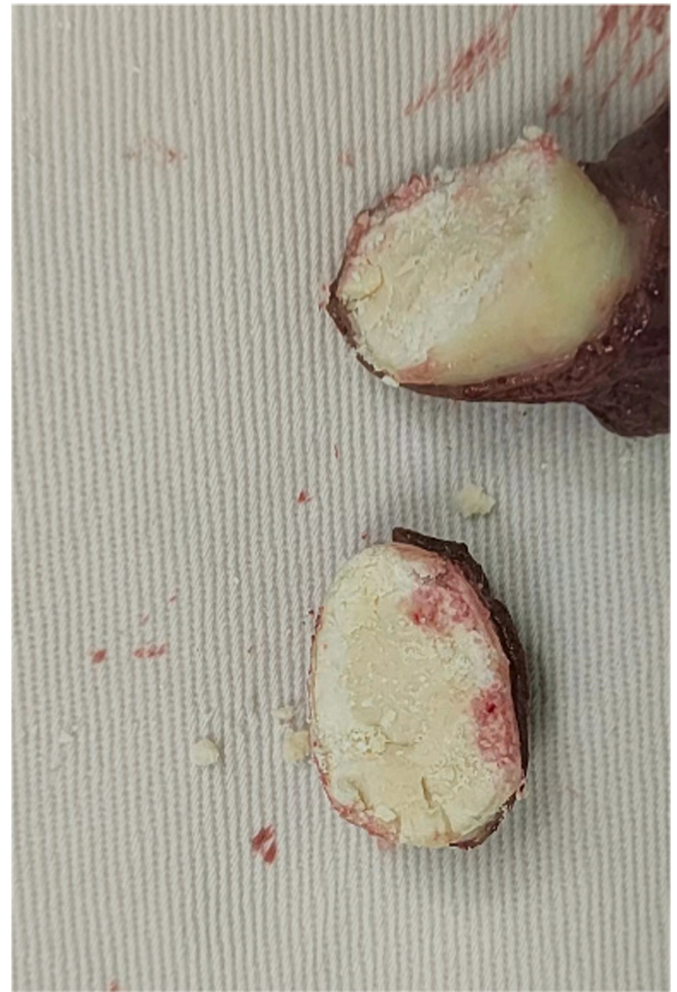


Fig. 4. The nodule was cut longitudinally.

prognosis.

References

1. Feng L, Shulin G, Jinhua W, et al. Idiopathic calcinosis of scrotum: a case report and review of the literature. *Heliyon*. 2022;8, e10762.
2. Wright S, Navsaria H, Leigh IM. Idiopathic scrotal calcinosis is idiopathic. *J Am Acad Dermatol*. 1991;24:727–730.
3. Shapiro L, Platt N, Torres-Rodríguez VM. Idiopathic calcinosis of the scrotum. *Arch Dermatol*. 1970;102:199–204.
4. Grenader T, Shavit L. Images in clinical medicine. Scrotal calcinosis. *N Engl J Med*. 2011;365:647.
5. Cannarozzo G, Bennardo L, Negosanti F, Nisticò SP. CO(2) laser treatment in idiopathic scrotal calcinosis: a case series. *J Laser Med Sci*. 2020;11:500–501.