African Journal of Urology

CASE REPORTS

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Abrikossoff's tumor of the penis: a case report

Ilyass Zerda, Amine Saouli*, Abdoulazizi Bilgo, Tarik Karmouni, Khalid El Khader, Abdellatif Koutani and Ahmed Iben Attya Andaloussi

Abstract

Background: Granular cell tumors (GCTs) also called Abrikossoff's tumor are rare tumors of often benign neurogenic origin, mainly located in the craniocervical region, rarely found in the external genitals. We report in this article the case report of a purely cutaneous case of rare clinical presentation at the level of the penis.

Case presentation: We report the case of a man, aged 54, with no history, consulted for a nodular lesion on the penis evolving for a year. a nodular cutaneous plate, indurated 3 cm in large diameter, painless and mobile in relation to the deep plane. The lymph node areas were free, and the remainder of the skin examination was without abnormalities.

Conclusions: Granular cell tumors (GCTs) also called Abrikossoff's tumor are rare tumors of often benign neurogenic origin, mainly located in the craniocervical region, rarely found in the external genitalia, the diagnosis is based on anatomopathology study completed by immunohistochemistry, and treatment consists of complete surgical excision of the tumor.

Keywords: Abrikossoff's tumor, Granular cell tumor, Penis, Benign

1 Background

Granular cell tumors (GCTs) also called Abrikossoff's tumor are rare tumors of neurogenic origin, with preferential involvement of the mucous membranes, less frequently, in the viscera and skeletal muscles. It is mainly found in the craniocervical region [1, 2], rarely found in the external genitalia. To our knowledge, 19 cases in the penis have been reported [3]. In this article, we report the case report of a purely cutaneous case of rare clinical presentation in the penis.

2 Case presentation

A 54-year-old man, with no history, consulted for a lumpy lesion of the penis which had been evolving for a year in a context of maintenance of general condition.

*Correspondence: amine.saouli0@gmail.com

Department of Urology B, CHU Ibn Sina, Faculty of Medicine and Pharmacy, Mohamed V University, Rabat, Morocco

Clinical examination revealed a lumpy skin plaque on the penis, indurated, 3 cm in large diameter (Fig. 1), painless and mobile in relation to the deep plane. The lymph node areas were free, and the remainder of the skin examination was without abnormalities.

An excisional biopsy of this tumor lesion was performed, the anatomopathological study showed that the superficial dermis arbites a tumor proliferation made up of large clumps of cells, eosinophilic and with a nucleus devoid of cytonuclear atypia (Fig. 2), the immunohistochemical study was positive for the S-100 protein (Fig. 3). The current follow-up is one year, without recurrence (Fig. 4).

3 Discussion

Granular cell tumors (GCTs) are rare, usually benign, slow-growing tumors of unclear origin. The peak incidence occurs between the ages of 40 and 60 years [4], although several cases of children have been published. Women are more commonly affected than men, and

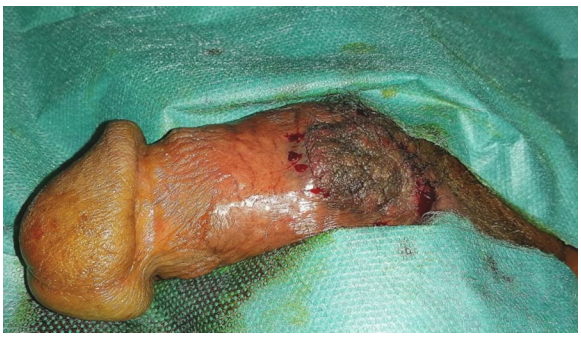

Fig. 1 Lumpy lesion on the lateral aspect of the penis

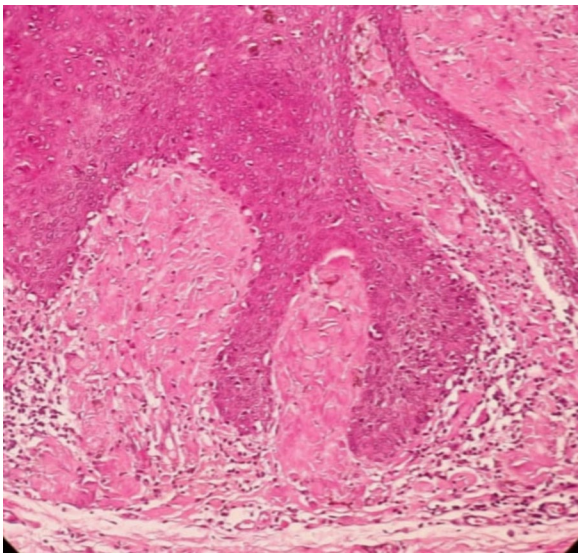

Fig. 2 Superficial dermis harbors a tumor proliferation made up of clumps of large, eosinophilic cells with a nucleus devoid of cytonuclear atypia

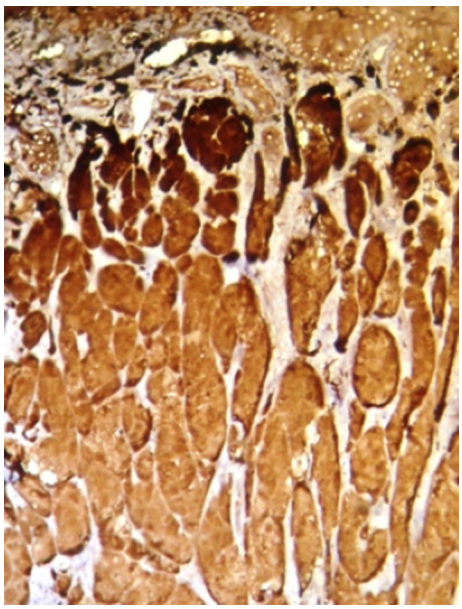

Fig. 3 The positive immunohistochemical study for the S-100 protein

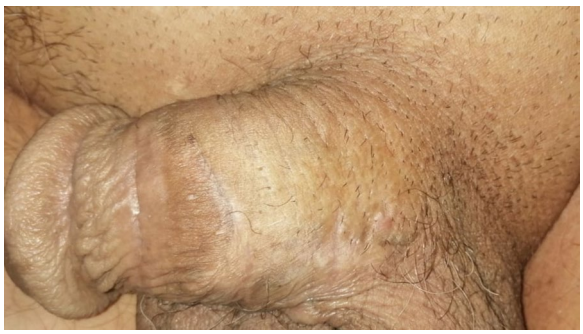

Fig. 4 Appearance of the penis after tumor resection

blacks more than whites, occurring more frequently in the head and neck area, with the tongue considered the most common site. However, GCTs of the external genitalia, particularly the penis, have been rarely reported.

GCT was first described in 1926 by Abrikossoff [5], who called these tumors "granular cell myoblastomas," suggesting that their origin was from skeletal muscle. Additional studies have demonstrated their close association with peripheral nerves [4]. Later, the use of electron microscopy and immunohistochemical techniques provided further evidence supporting the differentiation of Schwann cells from these tumors, which later became known as GCT. The staining patterns support a neural origin, in particular a neural sheath or a Schwann cell origin for GCT. They are generally positive for S-100, vimentin, neuron-specific enolase and Leu-7. In addition, they are negative for actin, glial fibrillary acidic protein, neurofilament, and cytokeratin [6–8].

The treatment of granular cell tumor is a surgical treatment [5]; it allows a definite diagnosis by the anatomopathological examination of the excision piece which must look for the limits of excision and the presence of criteria of malignancy. The patient is considered cured after this local excision, except in the following cases [2]:

- Tumor with multiple lesions.
- Tumor measuring more than 4 cm
- Invasion into adjacent tissues.
- Tumor with rapid growth
- Tumor with local recurrence.

- Female sex

These tumors require close subsequent monitoring because they present a risk of malignancy and recurrence. Their evolution is often favorable if the surgical resection is complete. However, in the event of incomplete tumor resection, tumor persistence or tumor recurrence is inconsistent [1].

4 Conclusions

Granular cell tumors (GCT) also called Abrikossoff's tumor are rare tumors of often benign neurogenic origin, mainly located in the craniocervical region, rarely found in the external genitalia, the diagnosis is based on the anatomopathological study completed by immunohistochemistry, and treatment consists of complete surgical excision of the tumor.

Abbreviation
GCT: Granular cell tumor.

Acknowledgements
Not applicable

Author contributions
AS, IA and AB analyzed and interpreted the patient data regarding the subject. TK, KE, AK and AIAA were a major contributor in writing the manuscript. All authors read and approved the final manuscript.

Funding
No funding.

Declarations

Ethics approval and consent to participate
The ethics committee of the Faculty of Medicine of Rabat has given us its agreement. Informed consent to participate in the study was provided by the patient. The reference number is not applicable.

Consent for publication
The patient gave his informed and written consent for the publication of this work.

Competing interests
The authors declare that they have no conflicts of interest in connection with this article.

Received: 27 August 2021 Accepted: 1 August 2022
Published online: 16 August 2022

References:

1. Moten AS, Movva S, von Mehren M, Wu H, Esnaola NF, Reddy SS et al (2018) Granular cell tumor experience at a comprehensive cancer center. J Surg Res 226:1–7. https://doi.org/10.1016/j.jss.2018.01.027
2. Trojano G, Casavola VC, Damiani GR, Mastrolia SA, Battini L, Cicinelli E (2017) Granular cell tumor of the vulva: review of the literature. Ital J Gynaecol Obstet 29(2):31–39
3. Godoy G, Mufarrij PW, Tsou HC, Torre P, Taneja SS (2008) Granular cell tumor of scrotum: a rare tumor of the male external genitalia. Urology 72(3):716.e7-716.e9
4. Yaghoobi R, Jazayeri NA, Alamshahi F, Bagherani N, Shahbazian N, Tajalli M et al (2016) Granular cell tumor (Abrikossoff's tumor) of the labium majus: a case report. Glob Dermatol. https://doi.org/10.15761/GOD.1000155
5. Marcoval J, Bauer-Alonso A, Llobera-Ris C, Moreno-Vílchez C, Penín RM, Bermejo J (2021) Granular cell tumor: a clinical study of 81 patients. Actas Dermosifiliogr 112(5):441–446
6. Hong SC, Lim YK, Chew SH, Chia YN, Yam KL (2013) Case report of granular cell tumor of the vulva and review of current literature. Gynecol Oncol Rep 3:20–22. https://doi.org/10.1016/j.gynor.2012.10.008
7. Manning-Geist BL, Perez-Atayde AR, Laufer MR (2018) Pediatric granular cell tumors of the vulva: a report of 4 cases and a review of the literature. J Pediatr Adolesc Gynecol 31(3):311–314. https://doi.org/10.1016/j.jpag.2017.12.010
8. Ayadi L, Fakhfakh IS, Khabir A, Charfi S, Bahri I, Sellami A et al (2011) Tumeur d 'Abrikosoff : etude anatomoclinique de neuf cas. Tunisie Médicale 89(5):430–433

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