



## Isolated penile schwannoma: A rare case report

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### ABSTRACT

Schwannoma is a benign nerve tumor composed of cells of the schwann nerve sheath. Only about twenty cases have been reported in the literature to our knowledge.

We report an isolated case of schwannoma of the penis in a 56-year-old man who presented a nodule of the penis in the balanopreputial groove that had been progressively increasing in size for three years. Anatomopathological and immunohistochemical criteria allowed for a positive diagnosis. Treatment consisted of surgical excision followed by rigorous surveillance.

### 1. Introduction

Schwannoma is a benign nerve tumor composed of cells of the schwann nerve sheath. Its location on the penis is extremely rare. Only 21 cases have been reported in the literature to our knowledge.

### 2. Case report

A 56-year-old male patient with no notable pathological history, has presented for three years a hard, budding and pedunculated tumor formation located at the level of the balanopreputial sulcus and lateralized to the left (Fig. 1). This nodule evolves without inflammatory signs and is not accompanied by any urinary manifestation. The patient reports no discomfort during sexual intercourse.

The patient had a surgical excision of the tumor and its base under spinal anesthesia.

The opening of this tumor formation which was 2 cm in diameter found a hemorrhagic cystic aspect. Histological examination of the

polyp showed an encapsulated nodular tumor proliferation consisting of spindle-shaped cells arranged in palisades around anucleated fibrillar areas (Verocay nodules). Hematoxylin-eosin staining of the tumor specimen revealed bundles of densely packed spindle cells and ovoid cells (Antoni A). Numerous vessels with hyalinized walls are also present. Immunohistochemical staining showed diffuse positivity to S100 protein. (Fig. 2).

After seven years of follow-up, the patient did not present either a tumor recurrence or a malignant degeneration.

### 3. Discussion

Schwannoma is a benign tumor pathology composed mainly of Schwann cells. It has a particular predilection for the distal extremities, the neck region and the head. It can develop both superficially and deeply and can have a single or multiple location. Despite the abundant innervation of the penis and the perineal region, its presence on the penis is extremely rare. Only about twenty cases have been reported in

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**Fig. 1.** Tumor formation of the penis, located at the level of the balano preputial sulcus, lateralized to the left and measuring 2 cm in diameter.

the literature to our knowledge.<sup>1</sup> Penile schwannomas are mostly benign. Only four malignant penile schwannomas have been reported in the literature. The association with Recklinghausen's disease has been noted in three cases. No association of benign penile schwannoma with a hereditary disease has been reported.<sup>2</sup> Frequently, schwannomas present as an asymptomatic, painless, slow-growing tumor lesion. However, penile schwannomas have been associated with erectile dysfunction, penile curvature and discomfort during sexual intercourse. Macroscopic examination of the schwannoma usually shows a well-limited, encapsulated spherical or ovoid formation. Microscopic study distinguishes between the Antoni A type with a dense, richly cellular structure with Verocay nodules and the Antoni B type with a looser edematous structure. The immunohistochemical study using the anti-protein S-100 antibody is essential to establish the diagnosis.<sup>3</sup> Malignant transformation is extremely rare and seems to be always associated with Von Recklinghausen disease.

Surgical resection is the first choice of treatment for benign schwannomas. In surgery, the tumor is relatively easy to separate. It is recommended to have a complete resection with a negative surgical margin.<sup>4</sup> Because it is well encapsulated, careful dissection is recommended to preserve the innervation. Rigorous clinical monitoring is recommended given the risk of tumor recurrence.<sup>5</sup>

#### 4. Conclusion

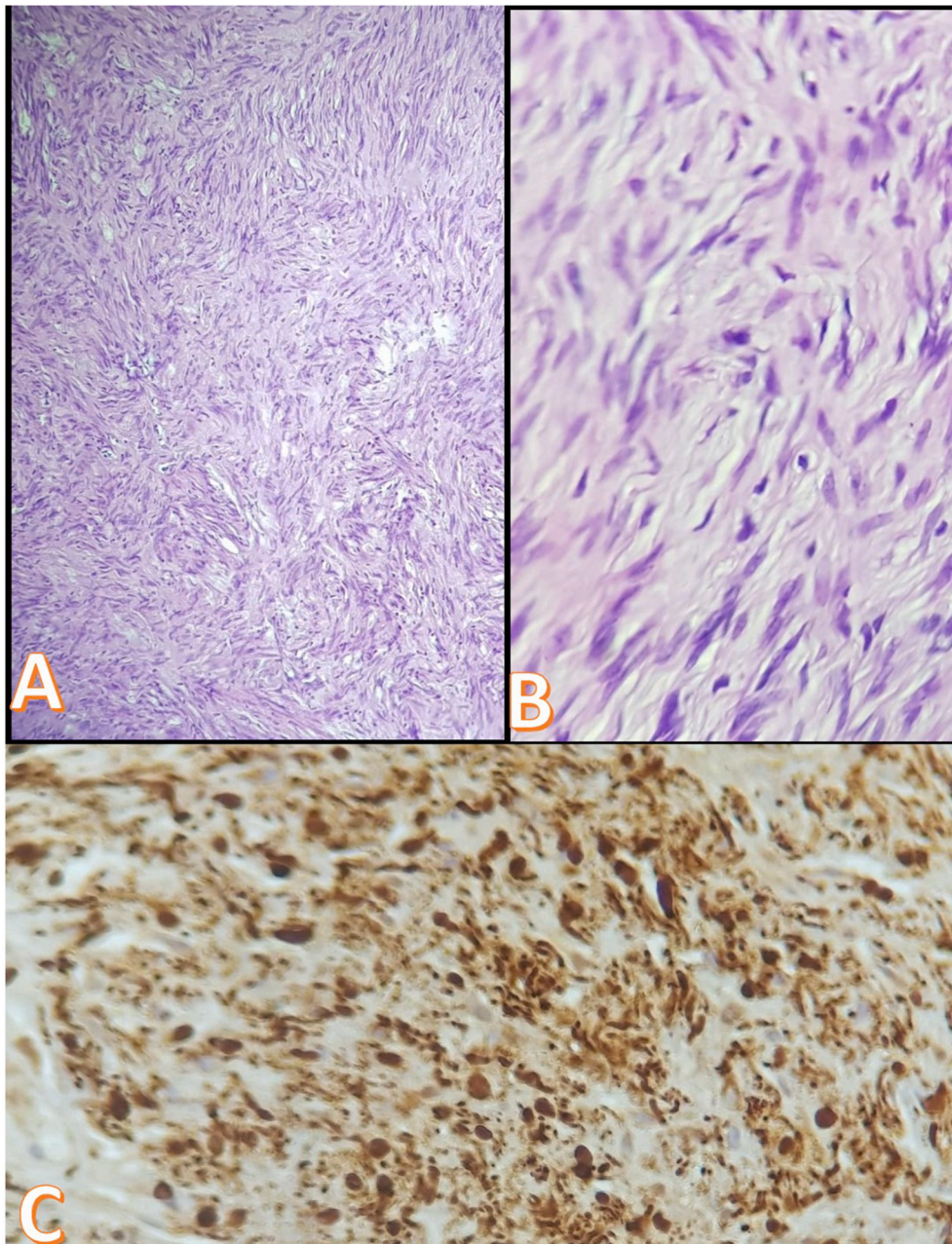
Schwannoma of the penis is a very rare tumor and generally has a good prognosis. The diagnosis is histological and the surgical treatment must be as complete as possible. Because of recurrence or even malignant transformation, further surveillance is necessary.

#### Authors contributions

R. Mejri: participated in the writing of the manuscript.  
 K. Mrad Dali: participated in the writing of the manuscript.  
 K.Chaker: participated in the writing of the manuscript.  
 M.Bibi: participated in the writing of the manuscript.  
 S. Ben Rhouma: participated in the writing of the manuscript and its correction.  
 Y. Nourira: participated in the writing of the manuscript and its correction.

#### Declaration of competing interest

The authors declare that there are no conflicts of interest regarding the publication of this article.



**Fig. 2.** Histological examination of schwannoma of the penis. A: Palisade nuclear areas called Verocay bodies (Antoni A area), hematoxylin-eosin stain, 40 × Growth. B: Hematoxylin-eosin stain, 200 × Growth, bundles of densely packed spindle cells and ovoid cells. C: Immunoperoxidase staining showed diffuse positivity to protein S100.

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