

Schwannoma of Dorsal Nerve of Penis: A Rare Case Report

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Abstract

Penile schwannoma is a rare, encapsulated tumor of the nerve sheath with less than 30 cases reported in literature till date. Here is one such rare case of a painless slowly progressing swelling on the left dorsal side of the penis in a 19-year-old male. On examination of this swelling a sound clinical knowledge helps to arrive at a provisional diagnosis of the lesion probably arising from a nerve and for further conformation, MRI was done which revealed as well defined T1 hypointense and T2 STIR mixed signal intensity lesion measuring 2cm × 1.4cm in the deep fascia of dorsal nerve of penis. Complete resection of the mass is the management which prevents future recurrence. Histopathology findings of palisading nuclei of cellular Antoni A and between them was less of Antoni B area with numerous foam cells confirm the findings of Schwannomas.

Keywords: Penile schwannoma; Painless swelling; Dorsal nerve of penis; MRI; Encapsulated tumor of the nerve sheath; Palisading nuclei of cellular Antoni A; Numerous foam cells.

Introduction

Schwannomas also called as neurilemmomas are encapsulated tumors of the nerve sheaths which originate from the Schwann cells. These are majorly benign but malignant cases are rarely reported in literature and are commonly seen in head, neck, extremities, mediastinum and retroperitoneal. Its incidence is very low with 0.6 cases per 100,000 persons annually [1]. Though the external genitalia have extensive innervations, Schwannomas are extremely rarely reported in penis. Here we report such a rare case in a 19 yr old male who presented with painless, slow growing swelling in the penis. MRI showed a mass arising from left dorsal nerve of penis which was completely excised preserving the sensory function.

Case Report

A 19yr old male presented with a painless, slow growing spherical mass on the left side of the dorsum of penis since 3 yrs. He noticed that there was increase in size since 1 year. On examination, it was a lobulated swelling measuring 2x2cm on the left dorsal aspect of the proximal penile shaft near the root of the penis [Figure 1].



Figure 1: Lobulated swelling (2x2cm) on the left dorsal aspect of the proximal penile shaft near the root of the penis.

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It was firm, non tender, nodular and non-pulsatile. The overlying skin was pinchable and the swelling was fixed to the underlying tissue. The sensory examination of the penis was normal and even general motor and sensory functions were normal. Preoperative diagnosis with Magnetic Resonance Imaging (MRI) revealed neurofibroma of the left dorsal nerve of penis. Well-defined T1 hypointense and T2 STIR mixed signal intensity lesion measuring 2cm × 1.4cm in the deep fascia of dorsal nerve of penis was seen [Figure 2].

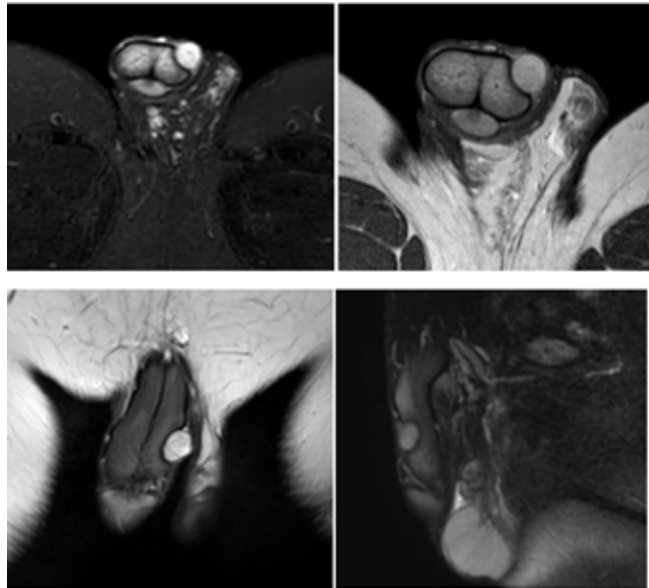


Figure 2: Well defined T1 hypointense and T2 STIR mixed signal intensity lesion measuring 2cm × 1.4cm in the deep fascia of dorsal nerve of penis was seen in MRI.

It was abutting the Corpora cavernosa ipsilaterally. A circumferential skin incision was given over the prepuce like a sleeve technique and the foreskin was excised followed by degloving of the penile skin till the root of the penis [Figure 3].



Figure 3: Circumferential skin incision was given over the prepuce and the foreskin was excised followed by degloving of the penile skin till the root of the penis.

The mass was completely excised with preserving the dorsal penile nerve, after excision hemostasis achieved and mucocutaneous approximation done [Figure 4].

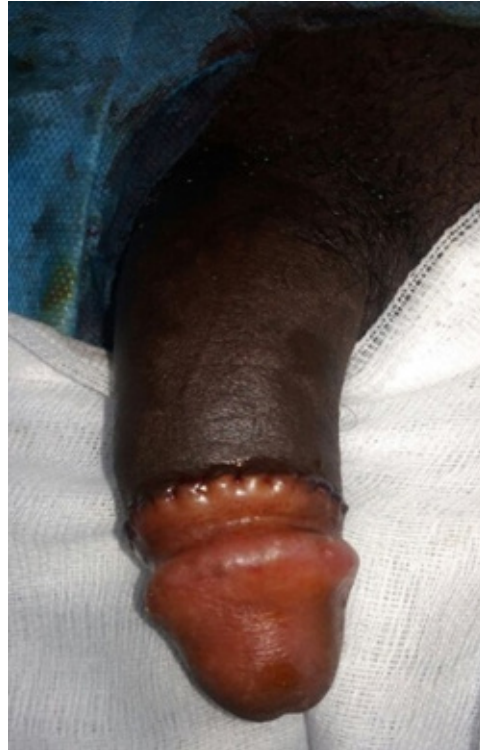


Figure 4: Muco-cutaneous approximation was done.

Histopathological examination of the lesion revealed a well circumscribed, encapsulated neoplasm composed of spindle cells with blood vessels. Palisading nuclei of cellular Antoni A and between them was less of Antoni B area with numerous foam cells were seen [Figure 5].

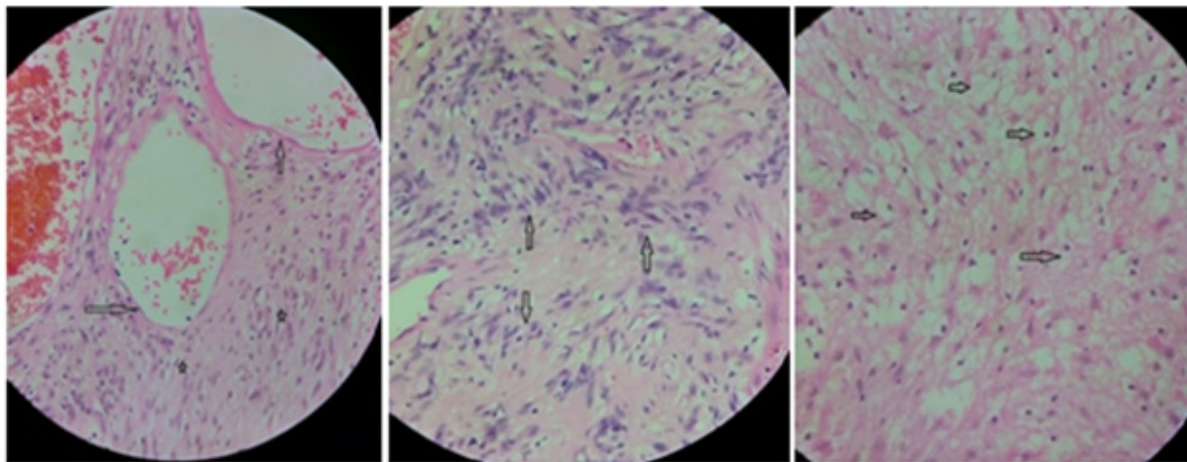


Figure 5: Histopathological findings showed well circumscribed, encapsulated neoplasm composed of spindle cells with blood vessels, palisading nuclei of cellular antoni A and between them was less of antoni B area with numerous foam cells.

These findings were suggestive of schwannoma. No erectile dysfunction or penile curvature was observed over six months, 1 year, 2 years and 3 years post surgery follow up. There was no recurrence of the mass.

Discussion

Schwannomas are benign tumors of the nerves sheath originating from the Schwann cells. They are mostly seen in young or middle aged males. These tumors are commonly seen in head, neck, extremities or mediastinum. Despite having rich innervations,

these tumors are rarely seen in the genitalia with less than 35 cases reported in literature^[2,3]. Majority of these tumors are seen on the dorsal penile shaft where the penile dorsal nerves are located. They can be located in the prepuce, glans or penile shaft^[3-5]. These can be solitary or multiple depending on the number of such tumors present. The solitary type is not associated with neurofibromatosis while the multiple ones are seen in neurofibromatosis type 1. Schwannomas are majorly discrete involving cutaneous and intraneural areas and rarely can they be non-discrete with plexiform pattern. The cutaneous variety is small and nodular lesions affecting cutaneous tissue with local pain or bleeding with no nerves involvement. The intraneural lesions originate from nerve roots, plexuses or from peripheral nerves. These have local or radiating pain and are located deeper.

Schwannomas of the penis are painless and slow growing tumors and in majority of cases, patient consult only when it hampers sexual activity. Imaging with MRI can detect schwannomas but histopathology is the needed to confirm the tissue of origin. Histopathologically it shows the characteristic dense cellular Antoni A area with nuclear palisading and hypocellular Antoni B areas with hypocellular stroma.

Primary motto in managing penile schwannoma is preservation of sexual function. Treatment involves complete excision of the mass while taking care of the nervous supply^[6]. The dorsal nerves act as sensory nerves in supplying the penile shaft, glans and urethra thereby preserving the nervous functioning^[7]. Preoperative evaluation of the tumor is essential in planning the extent of excision and preserving tunica albuginea which prevents penile curvature and erectile dysfunction. The chances of recurrence are very low but still regular follow up is required as few cases of recurrence have been reported due to incomplete resection^[8].

The above presented case is one such rare presentation of solitary Schwannoma with slow progressing painless mass. Complete excision was performed with restoring the nerve functioning of the penis. Histopathology of the mass showed the characteristic palisading nuclei of cellular Antoni A and between them was less of Antoni B area with numerous foam cells. There were no signs of recurrence till date i.e 3 year of follow up without any penile curvature.

Conclusion

Schwannomas of the dorsal nerve of penis are extremely rare tumors, a sound anatomical knowledge and clinical examination of the swelling can help in identifying this rare condition which can be easily diagnosed on MRI, is an essential tool in proper pre-operative planning for resection of the tumour. Complete resection is recommended for preservation of the sensory function by taking care of the dorsal penile nerve. Histopathological evaluation is must for differentiation from other pathologies and to arrive at a proper diagnosis.

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