

Oncology

Isolated primary schwannoma of the urinary bladder- a case presentation

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Introduction

Benign nerve sheath tumors (schwannoma and neurofibroma) involving the urinary bladders are rare with only case reports and limited series. Primary Schwannoma of urinary bladder is a very rare tumor, which may be benign or malignant. It can occur in any part of the body where nerve sheath is present. They usually occur in patients with Von Recklinghausen's disease.¹ Neurofibromas of the genito-urinary tract most commonly affect males than females by a ratio of 3:1, and commonly affect the bladder, but there are also reports of neurofibromas involving the penis, clitoris, prostate, urethra, testis, spermatic cord and ureter.² We report a case of primary isolated schwannoma of the urinary bladder in a patient without von Recklinghausen disease.

Case report

A 53 year-old male patient presented with total hematuria and irritative lower urinary tract symptoms namely urgency and voiding burning during 2,5 months. Clinical examination was normal. Laboratory test and urine culture were negative. Both on T1 weighted and T2 weighted imaging MRI showed the non-papillary

solid mass in area urinary bladder neck and trigonum with iso-density to the detrusor and measuring 2.5×3.5 cm in sagittal and frontal planes (Fig. 1). The cystoscopy investigation showed non-papillary solid tumor in area urinary bladder neck and partly in trigonum, both ureteral orifices were free. Biopsies of the tumor were sent for further histological estimation (Fig. 2). The submucosal mass in macroscopic investigation was tan, smooth and rubbery. It was sectioned and stained with Hematoxylin and Eosin (H&E) for further evaluation. Light microscopy showed a spindle cell neoplasm with areas of dense cellularity (Antoni A) and areas of hypocellularity (Antoni B). Within the densely cellular areas, palisading nuclei alternated with pink, nuclear free zones (Verocay bodies) (Fig. 3). Since the abovementioned histological data is highly characteristic of a schwannoma the pathologist did not see the necessity in immunohistochemistry. This patient was successfully treated with TURB. The follow-up during 3, 6 and 12 months did not show any relapses disease.

Discussion

Sporadic cases of this tumor are even more rare. They represent <0.1% of all bladder tumors. Isolated schwannomas have also been discovered in other areas such as the kidney and retroperitoneum

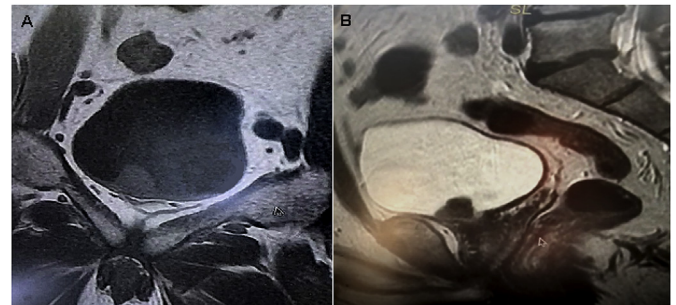


Fig. 1. T1 weighted MRI of pelvis in frontal plane demonstrates the non-papillary solid tumor in urinary bladder neck(A) T2-weighted MRI of pelvis in sagittal plane shows the solid non-papillary mass in area urinary bladder neck and trigonum(B).

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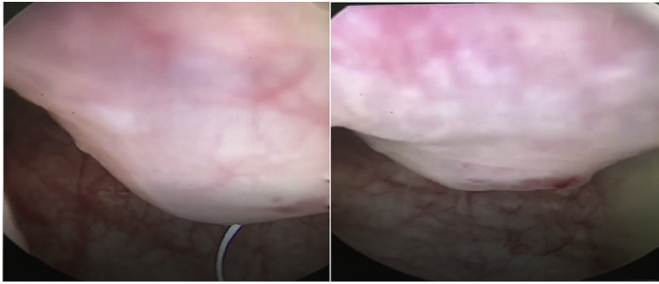


Fig. 2. Cystoscopy investigation demonstrates the solid non-papillary mass in urinary bladder neck.

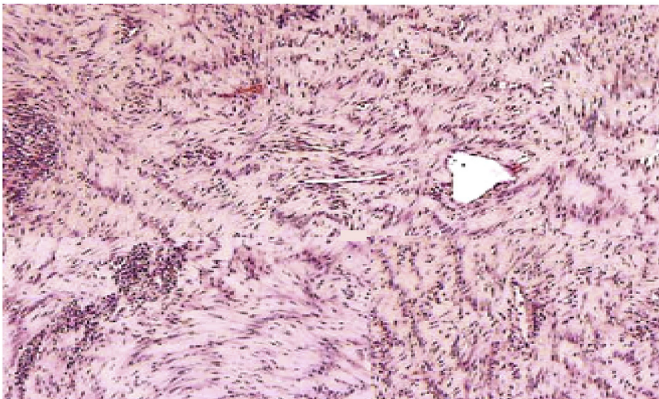


Fig. 3. Schwannoma of urinary bladder. Hematoxylin & Eosin staining demonstrating spindle cells with hypercellular areas “Antoni A” and hypocellular areas “Antoni B”.

but rarely in the bladder.³ It occurs most commonly in the 4th to 6th decade of life. Bladder schwannomas may present with voiding and/or storage symptoms, flank pain or incontinence. They are usually benign and malignant variants have also been described. It may also present with hematuria, Lower Urinary Tract Symptoms (LUTS) and suprapubic discomfort. Diagnosis is made initially by histopathological study and immunohistochemistry.

The radiological aspects of schwannomas are characteristic; especially on MRI and they can frequently evoke the diagnosis, which is confirmed by biopsy. Ultrasonography is less useful to diagnose schwannomas, although it can differentiate a solid from a cystic mass. A CT scan can show the relations between the schwannoma and adjacent organs, and the usual findings are predominantly solid, noncalcified, well-encapsulated lesions. However, ultrasonography and CT are rather nonspecific in differentiating schwannomas from other solid tumors.⁴ MRI is slightly more sensitive than CT for the evaluation of suspected schwannomas, but

differentiation between a bladder schwannoma and carcinoma remains difficult. Both schwannomas and carcinomas are usually isointense to skeletal muscle on T1 weighted imaging (T1WI) and isointense to slightly hyperintense to skeletal muscle on T2 weighted imaging (T2WI).⁵ The prognosis of neurofibroma and schwannoma is generally good. Most patients with bladder neurofibroma have been treated by local excision and are alive without recurrence. In the English literature only about 7 cases have been reported till now. We reported eight case primary isolated Schwannoma urinary bladder without evidences Von Recklinghausen's disease. Our patient successfully treated by transurethral resection of bladder tumor (TURBT). The follow-up during 6 and 12 months did not show any relapses disease.

Strategy of management the schwannoma of urinary bladder

Considering that schwannomas of the urinary bladder are rare, they usually should not be included in the differential diagnosis. What need to do in such cases? What need to know about it? The patients with such diagnosis mainly complains on hematuria and irritative lower urinary tracts or only recurrent hematuria. As a method imaging it is preferably to use MRI with T1 and T2 sequences. Bladder Schwannomas are diagnosed only by histopathological investigation including H&E staining or S100 immunohistochemistry. Surgical treatment successfully eliminates hematuria and related symptoms. It includes transurethral resection of bladder tumor (TURBT), laparoscopic or open cystectomy. The control cystoscopy need to perform through 3,6 and 12 months after surgical treatment.

Conclusions

Isolated primary schwannoma of urinary bladder is a very rare occurrence with only a few cases reported. The diagnosis is only histological. Optimal treatment of this tumor includes partial cystectomy or TURBT. The follow up should include control cystoscopy through 3,6 and 12 months after surgical treatment.

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