



Urinary Bladder Cavernous Hemangioma: A Case Report

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Authors' contributions

This work was carried out in collaboration between all authors. Author IM managed the acquisition of the data. Author MAB performed the drafting and the analysis of the manuscript. Author SBR managed the conception and design. Author RK is the surgeon who performed the resection. Author AB critical revision of the manuscript. Author BL read and approved the final manuscript. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Aims: The authors present a case of urinary bladder cavernous hemangioma and discuss the clinical and pathological features of this entity.

Case Presentation: We report a solitary bladder cavernous hemangioma occurring in a 19-year-old man. The patient presented with macroscopic hematuria. Radiologic findings revealed an intravesical exophytic tumor. Cystoscopy revealed a sessile, reddish mass, measuring 2 cm in diameter located in the right sided wall of the bladder. Endoscopic resection of the mass was performed and the pathologic examination revealed a cavernous hemangioma. No recurrence was noted at the 3-year follow-up.

Conclusion: Hemangioma is a benign vascular tumor accounting for about 0.6% of bladder tumors. Its prognosis is generally good but a long follow-up observance is mandatory to detect recurrence or residual disease.

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1. INTRODUCTION

Cavernous hemangioma is a rare benign vascular tumor occurring in the urinary tract. Its location in the urinary bladder is extremely rare accounting for 0.6% of all bladder tumors. To our knowledge, there are approximately only 100 cases reported in the literature [1-2]. The typical clinical presentation is macroscopic hematuria. It is suspected by cystoscopy and radiologic findings and confirmed by pathologic examinations. Management is controversial because of a high risk of bleeding, however, numerous therapeutic options are described in the literature [3-4]. We herein report a case of a cavernous hemangioma of the urinary bladder occurring in a 19 year old man, focusing on the clinical presentation, imaging features and pathology of these lesions and raising the awareness of urologists, radiologists and uropathologists about this rare entity.

2. CASE REPORT

A 19 year-old man presented with recent episodes of isolated terminal gross hematuria. Symptoms of dysuria, urethral discharge, flank pain, abdominal pain, or recent illness were not observed. No personal or family history of genitourinary disease was noted. Past medical history was not significant. The patient denied previous abdominal or genitourinary surgeries. Vital signs were within normal limits. Physical examination and especially skin examination was unremarkable, no masses or tenderness were noted in the abdominal palpation. Other pertinent findings included the absence of cervical, supraclavicular or inguinal lymphadenopathy. Urinalysis showed the presence of blood and was negative for protein, nitrite and leukocytes.

A pelvic ultrasound has objectified an echogen polypoid mass within the right wall of the bladder (Fig. 1). Intravenous urography showed filling defect in the right side of bladder in the cystogram phase (Fig. 2) and computed tomography scan of abdomen and pelvis with contrast also revealed a soft tissue mass arising from right of the bladder and hanging in bladder lumen showing homogenous enhancement (Fig. 3). Cystoscopy revealed a reddish tumor, sessile, 2 cm in diameter of the right sided wall of the bladder. To rule out malignancy, a transurethral resection was performed in a complete and profound way.



Fig. 1. Ultrasound echography showed an echogen polypoid mass of the urinary bladder



Fig. 2. Intravenous cystography showed a filling defect of the right wall of the bladder

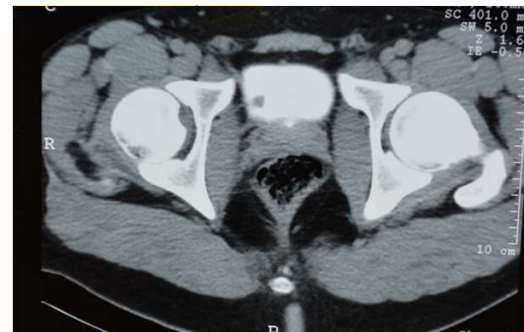


Fig. 3. Computerized tomography demonstrated a solid enhancing mass originating from the dome of the urinary bladder

Pathological examination revealed a well limited tumor occupying the submucosa layer covered by a normal transitional epithelium (Fig. 4). It was formed by numerous vessels, thin-walled, dilated and confluent; disposed within a fibrous stroma.

These vessels were coated with a regular endothelium, flattened. There were neither cytonuclear atypia nor mitosis (Fig. 5).

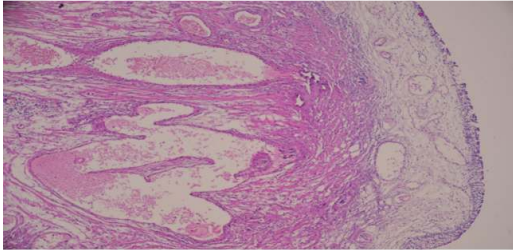


Fig. 4. (Hematoxylin and Eosin staining x10) Thick walled, large interconnecting vascular channels filled with blood occupying the submucosa of the bladder mucosa

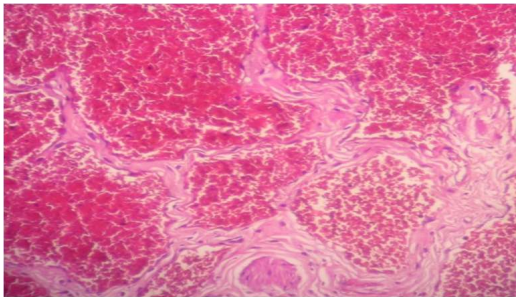


Fig. 5. Hematoxylin-Eosin x100 staining showed polyhedral epithelioid proliferation in a primarily insular pattern with a large zone of necrosis

The postoperative course was favorable, hematuria stopped after two weeks and the patient is doing well at the 3 year follow-up.

3. DISCUSSION

Cavernous hemangioma is a very rare primary tumor of the urinary bladder that should be considered after exclusion of other more common lesions. In 1869, Broca described a vascular lesion of the bladder as an autopsy finding. However, the first detailed histological description was made by Langhans in 1876 [2]. The hemangioma of the bladder is found in patients aged from 10 days to 72 years [1]. However, the majority of cases, including this observation, are diagnosed in the first three decades of life. It has a slight male predominance [5]. The tumor size ranges from few millimeters to 10 cm in diameter with a mean size of 2 cm [5-6]. Lesions are generally solitary and are predominantly located at the dome, the

posterior wall and the trigone of the bladder [7]. In our case the tumor was within the lateral wall and measured 2 cm in diameter. Recurrent and isolated gross hematuria is the main clinical symptoms of urinary bladder hemangioma. Other symptoms include abdominal pain due to vesical irritation and urinary retention [8]. One case of hemorrhagic shock was reported in a 2 year old girl [3]. Bladder hemangioma may be synchronously occurring with cutaneous hemangioma or visceral hemangioma in one third of the cases. Hemangioma of the bladder may also be associated with malformation syndromes such as Klippel-Trenaunay-Weber Syndrome and Sturge-Weber syndrome that are characterized by cutaneous hemangiomas, varicose veins, and hypertrophy of extremities. No malformation was detected in our patient neither cutaneous hemangioma [4-9].

At the cystoscopy, bladder hemangioma appears as a sessile, irregular, reddish or bluish mass soft in consistency and bleeds easily on contact. The perilesional mucosa is intact. This lesion is usually small [6].

Histologically, the hemangioma of the bladder is identical to that observed in other locations. The majority of hemangiomas bladder are cavernous type [10]. They consist of dilated vessels, confluences, blood engorged, lined with a flattened endothelium. Vessel walls are sometimes thickened by an adventitial fibrosis. Calcifications are common. More rarely, it is a capillary hemangioma composed of smaller blood vessels, bordered by a cubo-flattened and separated by fibrous tissue of varying abundance endothelium [3].

The differential diagnosis of bladder hemangioma arises with the angiosarcoma. The absence of atypia and mitotic cytonuclear will rule out this diagnosis [4]. Other diagnoses should be mentioned, such as secondary changes to radiotherapy, chemotherapy or a previous biopsy.

The treatment of bladder hemangioma is still not well standardized and depends on the size and site of the tumor. Several therapeutic modalities are possible. For small lesions, treatment can vary from observation, transurethral resection, electrocoagulation, radiation, systemic steroids and injection of sclerosing agent. Asymptomatic hemangiomas do not require treatment. For large or multiple lesions cystectomy is the treatment of choice [7]. Transurethral resection has the risk of

uncontrollable bleeding, however in a report of 19 patients of the Mayo Clinic [10], biopsy and fulguration of small lesions (<3 cm) does not create a significant bleeding and appears to treat this lesions adequately. Having this in mind, we decided to treat our patient with transurethral resection, achieving satisfactory results.

Bladder hemangioma is usually of good prognosis; however a long follow-up is mandatory to detect recurrence or residual disease [1].

4. CONCLUSION

Bladder hemangioma is a rare tumor and information regarding its characteristics are lacking. Clinical presentation has no pathognomonic signs although gross hematuria is the most frequent complain. Management is controversial due to the bleeding risk of this high vascularized lesion. However, it appears that small lesion could be treated using transurethral resection. This report provides an update of the most current findings and adds to the available data concerning this tumor.

CONSENT

All authors declare that 'written informed consent was obtained from the patient for publication of this paper and accompanying images.

ETHICAL APPROVAL

All authors hereby declare that all experiments have been examined and approved by the appropriate ethics committee and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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