

Functional medicine

Laparoscopic partial cystectomy for venous malformation of the bladder

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ABSTRACT

Venous malformation (VM) of bladder is uncommon. We report the case of a VM involving bladder that was initially misdiagnosed as endometriosis based on symptomatology, histology and imaging. After failure of hormonal agent and increasing symptoms, a laparoscopic partial cystectomy was performed with a rapid improvement. Pathology diagnosis confirmed a VM. The 6-month cystoscopy showed the persistence of a vascularized lesion, reflecting an uncomplete resection. We decided to closely follow the patient and after 24 months, the lesion was stable and our patient remained asymptomatic. This case highlights the importance of considering VM in atypical urological symptoms and bladder lesion.

Introduction

Venous Malformations (VMs) result from anomalies in the vasculogenesis, leading to dysfunctional venous network; they are composed by dilated and ectatic veins, due to smooth muscle cells deficiency.¹ VMs are present from birth and growth with the child. Involving any organ and depending of their location, they induce large variety of symptoms and functional limitation. Symptoms are highly variable and include pain, bleeding, deformation and functional impairment, resulting in significant morbidity and mortality. According to their anatomical situation, severity of symptoms and size, different treatment of VMs are available, including sclerotherapy and surgery.^{1–5}

VMs invading the bladder is exceptionally described, probably due to under- or misdiagnosis, making this entity relatively unknown and difficult to treat adequately. We highlight the importance of considering the diagnosis of VM in untypical case of bladder lesion in order to propose the optimal therapeutic strategy.

Case presentation

A 32-year-old woman was referred for dysuria, nycturia and severe urge urinary incontinence, lasting for more than 2 months. The patient also described dysmenorrhea, dyspareunia and heavy menstruations. No hematuria was reported, but red blood cells were found in the urine sediment. Gynecological examination was considered as normal. Cystoscopy showed blue spotted lesion on the bladder posterior wall

(Fig. 1) and a trans-urethral biopsy was performed without any particular bleeding. Histological findings showed many hemosiderin-full macrophages in lamina propria and absence of proliferative cells; staining for stromal CD10² was present, suggesting a diagnosis of endometriosis. Magnetic Resonance Imaging (MRI) of the pelvis (Fig. 2) reported a nodular process of 60 × 22 × 44 mm invading the posterior wall of the bladder without any arterial enhancing component. Considering bladder endometriosis as a possible diagnosis, we started a LHRH-agonist therapy. Follow-up examinations (MRI, cystoscopy) after 6 months didn't show any change in the lesion size and the patient remained still highly symptomatic. After discussion with the patient, we performed a partial laparoscopic cystectomy. No particular bleeding was observed and no blood transfusion was required. The bladder was closed in 2 layers and noted to be leak-free at a volume of 200 mL. The macroscopic evaluation of the bladder resected tissue showed a 100 × 50 × 40 mm VM, developing within the detrusor, without extravesical extension. On histology (Fig. 3), majority of the veins were dilated and had a cavernoma-like appearance; they were not covered by any smooth muscle fiber. The resection margins did not appear to have dilated veins, despite the difficulty of confirming a complete resection. The post-operative evolution was uncomplicated and her quality of life improved rapidly (increased urinary comfort, decrease of dysuria and disappearance of dyspareunia). However, postoperative control cystoscopy at 6 months found a small blue spotted lesion on the bladder trigone, suggesting a residual VM. The control MRI at 6 months also described this residual nodular image of 10 × 7 × 8mm. We decided to

Abbreviations: VM(s), venous malformation(s); MRI, Magnetic Resonance Imaging.

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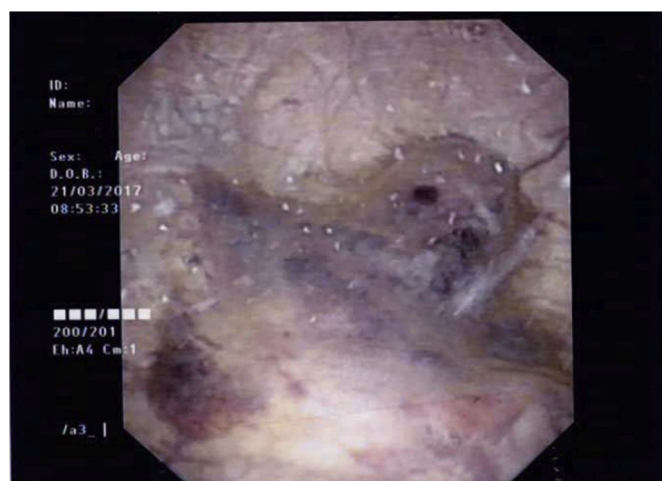


Fig. 1. Cystoscopy view: Blue spotted lesion on the posterior wall of the bladder. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

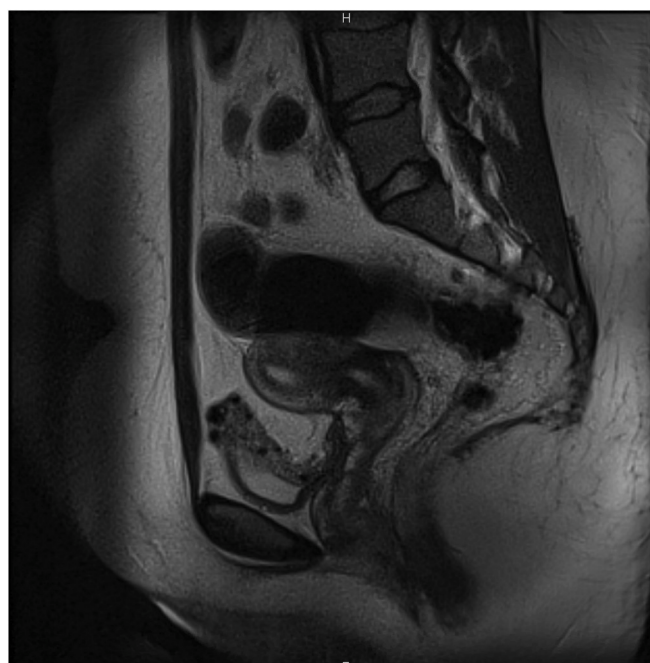


Fig. 2. Nodular process of 60 × 22 × 44 mm invading posterior wall of the bladder.

closely follow this patient. Twenty-four months later, our patient was asymptomatic and the lesion remained stable both on MRI and on cystoscopy.

Discussion

VMs occurring in bladder are exceptionally described.¹ Here is the presentation of a VM involving the bladder of a young woman. Endometriosis was first suspected based on patient's age, symptomatology, absence of arterial enhancement on MRI and histological findings (absence of proliferative cells and CD10 stromal positivity²). However, the absence of clinical and radiological improvement on hormone therapy led us to consider surgery in order to rapidly improve symptomatology and get a correct diagnosis. Partial cystectomy was so performed and final pathology diagnosis confirmed a VM located in the

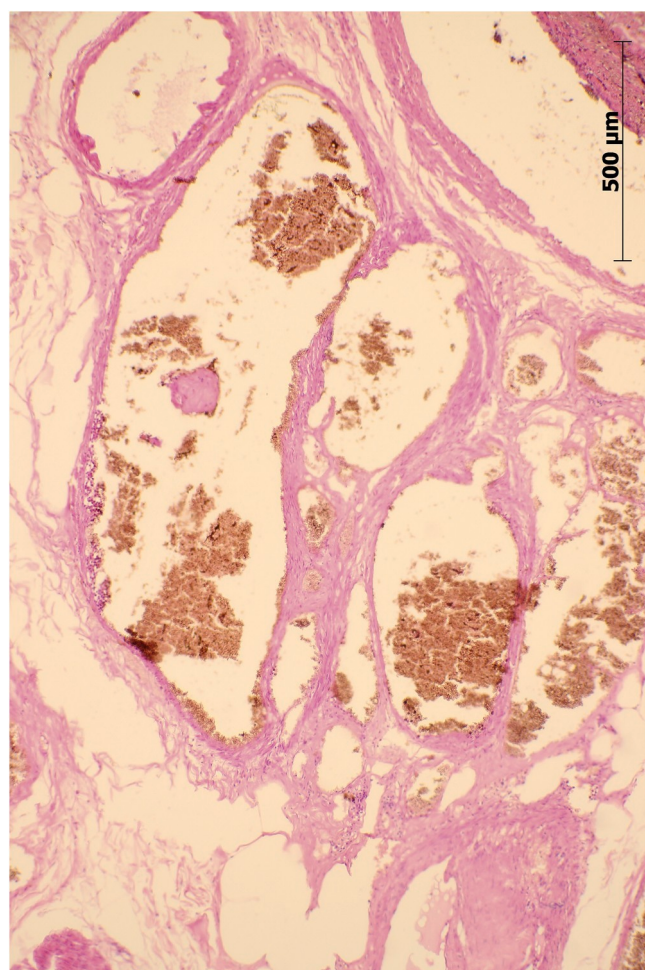


Fig. 3. Dilated and ectatic veins of the venous malformation.

bladder wall. There are very few reports of surgery in VMs of bladder, due to the very low incidence of this entity. Based³ on VM recommendations, excision surgery of VM must be complete in order to avoid recurrence. In the case of our patient, surgery improved rapidly symptoms and quality of life; even though, a vascularized lesion remained visible at the 6-month cystoscopy, reflecting the incomplete resection of the VM. Whether an initial diagnosis of VM before performing the partial cystectomy could had led to another therapeutic approach remains unknown; sclerotherapy⁴ followed by more extensive surgery could had been proposed in order to improve *in toto* resection. Persistence of VM is however frequent after VM resection⁵ and the natural evolution is unpredictable. After discussion with the patient, we decided to adopt a close follow-up strategy based on cystoscopy every 3 months and MRI every 6 months. Twenty-four months later, our patient is asymptomatic and MRI did not show any progression of the lesion.

Conclusion

The VMs of the bladder remain rarely described; symptoms are nonspecific leading to potential misdiagnosis. Surgery has to be proposed and discussed with the patient but the complete resection is the rule in order to avoid resurgence. Surveillance could be proposed in some case with a regular follow-up.

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Declarations of competing interest

None.

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