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Case Report

Lower urinary tract symptoms secondary to a vaginal leiomyoma ‘the female prostate’: case report

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ABSTRACT

This is a case report of lower urinary tract symptoms secondary to a vaginal leiomyoma “the female prostate”. A 45-year-old female patient with no significant personal history, sensation of a vaginal foreign body accompanied by lower urinary tract symptoms, on vaginal physical examination with a 7×7 cm deep tumor, increased consistency, not painful, without hemorrhage. Magnetic resonance imaging with hypointense T1 and T2 images, few linear hyperintense areas in T2, homogeneous postgadolinium enhancement 69×66×53 mm, solid tumor dependent on the vaginal vault. Tumor markers CA 19-9: 5.98 U/ml, CEA: 1.09 ng/ml and CA 125: 11.73 U/ml. Open surgery was performed in which a 8×6 cm tumor was found in the vaginal vault dependent on the posterior wall of the vagina. Histopathological report: conventional leiomyoma measuring 9×7.5 cm in long axes, without nuclear atypia. With resolution of symptoms in the lower urinary tract, with normal urinary frequency, without presence of urgency, without urinary incontinence or voiding symptoms. It is important to identify and diagnose lower urinary tract symptoms always, since they could be an initial manifestation of pelvic tumors in which the treatment approach should not be delayed.

Keywords: Lower urinary tract symptoms, Vaginal leiomyoma, Female prostate

INTRODUCTION

The vaginal leiomyoma is an extremely rare benign tumor. The first vaginal leiomyoma was described in 1733 by Denys de Leyden.¹ To the best of our knowledge only around 330 cases have been reported, being a very low frequency tumor. It is composed of smooth muscle cells, and it frequently forms in the anterior wall of the vagina. Its clinical spectrum varies from: lower abdominal pain, vaginal foreign body sensation, dyspareunia, and lower urinary tract symptoms.² The diversity of symptoms may cause a delay in diagnosis and treatment.

This is the case of a vaginal leiomyoma associated with lower urinary tract symptoms in a patient who was recently

operated on an abdominal hysterectomy due to uterine myomatosis.

CASE REPORT

This was a 45-year-old female patient, who had a medical and surgical history of a caesarean section with a preterm birth and an abdominal hysterectomy secondary to uterine myomatosis. Her last cervical cytology did not have any apparent alterations. She frequently complained about the sensation of a foreign body in her vagina accompanied by symptoms of frequency, urgency, mixed urinary incontinence with a Sandvik index of 8 and emptying disorder with the presence of a sensation of incomplete emptying, decreased caliber and strength of the urinary stream and intermittency. On vaginal physical

examination, the patient had a 7×7 cm tumor, with increased consistency, non-painful at palpation, did not have a history of bleeding, and did not present any other associated signs or symptoms. During the physical exam an empty bladder cough test was negative. During the rectal examination we could palpate an extrinsic compression towards the anterior wall of the rectum, the sphincter's tone was preserved. The rest of the physical exam was irrelevant to the case.

Laboratory and cabinet studies were performed including a transvaginal USG in which a tumor was reported at the bottom of the vaginal vault. It was an ovoid shape, heterogeneous mass which measured 7.7×6.0 cm, with peripheral vascularity. A compute tomography was also done showing a hypodense image in pelvic cavity measuring 8.3×6.1×7.4 cm, with defined edges. To conclude the images a pelvic MRI was also performed showing a solid tumor which measured 69×66×53 mm and it was dependent of the vaginal vault. It was hypointense in nature both on T1 and T2. We could identify few hyperintense linear areas in T2 (Figure 1 and 2) and it showed a homogeneous postgadolinium enhancement. Other laboratory studies showed the following: Tumor markers CA 19-9: 5.98 U/ml, CEA: 1.09 ng/ml and CA 125: 11.73 U/ml.

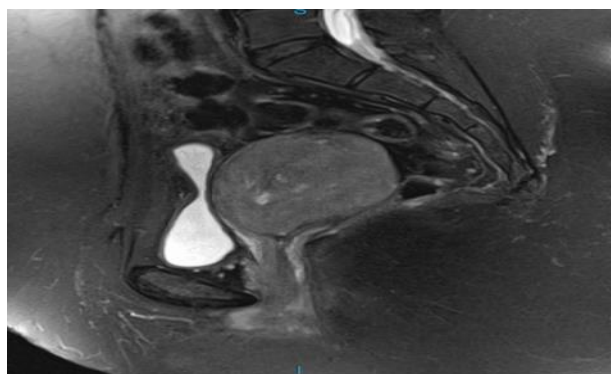


Figure 1: MRI in T2 phase. Sagittal plane image of tumor that depends of the vagina in its upper part of 69×66 mm.

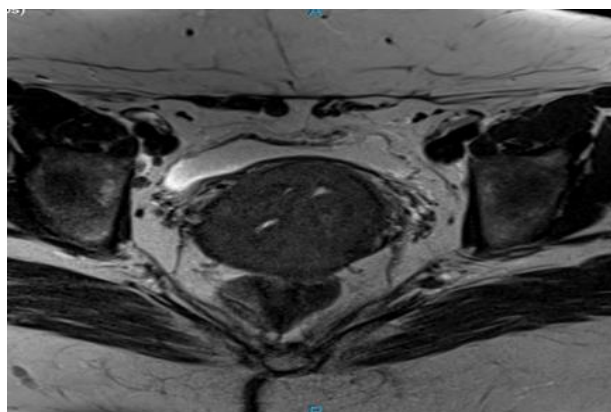


Figure 2: MRI in T2 phase. Image in axial plane of 66×53 mm.

After a multidisciplinary session we decided that the best treatment we could offer the patient was surgical and she required an open surgery. Once performed an 8×6 cm tumor was resected from the posterior vaginal vault wall (Figure 3).

The histopathological report referred a conventional leiomyoma which measured 9×7.5 cm in diameter; there was no nuclear atypia.

Post-surgery the patient was once again interrogated for lower urinary tract symptoms such as frequency, urgency, incontinence, or other voiding symptoms to which she denied. She had a satisfactory postoperative evolution so she was safely discharged.

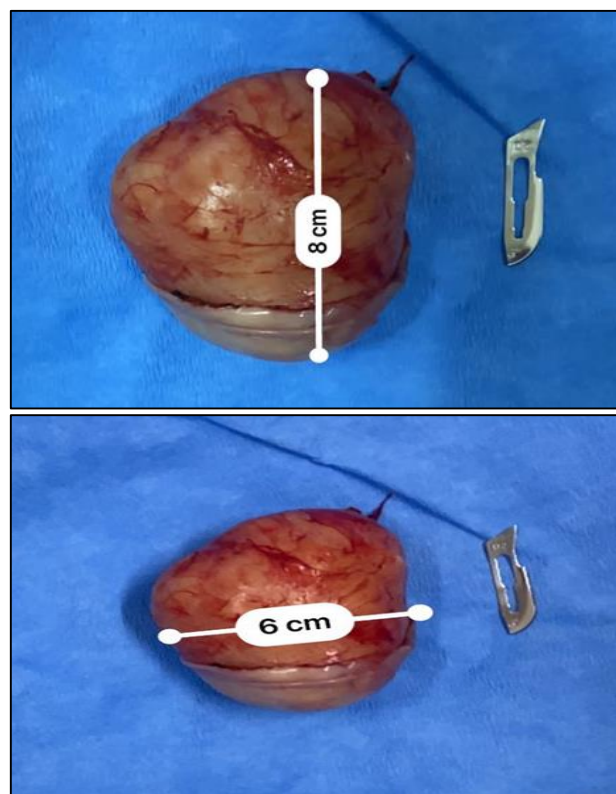


Figure 3: Surgical piece of vaginal tumor 8×6 cm.

DISCUSSION

The most common location for leiomyomas in the female reproductive system is in the uterus, which can extend to the cervix; however, their finding in the vaginal walls is extremely rare. It is estimated to occur more frequently in women aged 35-50 and is most common in the anterior wall of the vagina. Our patient was 45 years old and had the tumor in the posterior vaginal vault.⁴

The leiomyoma's origin is unknown; however, it is believed that they are estrogen dependent. Zhao proved that leiomyoma's are positive for SMA (smooth muscle actin), estrogen receptors and EGFR (epidermal growth factor receptor).⁵

Most leiomyomas are benign, but they could suffer malignant degeneration. This neoplastic behavior is common in patients who present extrauterine fibroid degeneration, which are generally located on the posterior vaginal wall, which are pedunculated and/or arise from the submucosa, which are caused by traumatic stimuli, and those who present greater mitotic activity.^{6,7}

The tumors clinical manifestations are variable and depend on its growth rate, location, and size (1.5 cm to up to 6 cm). The main symptoms are dyspareunia, protrusion of the tumor, which can be confused with some degree of pelvic organ prolapse, leukorrhea, lower urinary tract symptoms both of storage and emptying, such as increased urinary frequency, urgency, urinary incontinence, intermittency, decreased caliber, and force of the urinary stream, as well as a sensation of incomplete emptying. This last group of symptoms is why this specific condition is called in the literature the “female prostate”. This was the case of our patient in whom these symptoms were the main manifestation and reason for consultation.

Complementary laboratory and cabinet studies as part of the diagnostic workup has not been well described since it's a low frequency tumor there are no established and/or validated clinical guidelines that establish how to approach a vaginal leiomyoma. Trans-polating from other gynecological tumor approaches a transvaginal ultrasound and magnetic resonance are important images to obtain in order to establish the location, consistency, invasiveness and other fundamental data for its evaluation. On MRI the vaginal leiomyoma has low intensities on T1 and T2, unlike leiomyosarcomas which have high intensities.

CONCLUSION

In addition, these tests can help in decision-taking towards the surgical approach for its excision depending on its location and size one will choose for a vaginal or an abdominal approach. The definitive diagnosis is established by histology for which the tumor must be excised or biopsied. In our patient a trans-surgical pathology study was carried out in which a vaginal leiomyoma diagnosis was confirmed, this was later ratified by the definitive report. It is important to recognize and study all symptoms of the lower urinary tract since it could even be a manifestation of a genitourinary tumor which would require an expedite differentiation between benign and malignant histopathology in order to plan treatment and a possible timely surgical approach.

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