PARAURETHRAL LEIOMYOMA

Hector Pastor Navarro, Jesus Martinez Ruiz, Carlos Martinez Sanchiz, Miguel Peran Teruel, Miguel Segura Martin, Jose Maria Pastor Guzman and Julio Virdesa Rodriguez.


Summary.- OBJECTIVE: To describe a case of paraurethral leiomyoma and to review the literature.

METHODS: The usual preoperative diagnostic procedures and clinical manifestations are discussed.

RESULTS: The mass was resected and, 6 years later, the patient remains asymptomatic and with no recurrence.

CONCLUSIONS: Urethral or paraurethral leiomyomas are benign tumors that arise from the urethral or vaginal smooth muscle. Radiological findings (particularly magnetic resonance imaging) may suggest the origin of the tumor before surgery; however, the final diagnosis is determined by histology.

INTRODUCTION

Leiomyoma is a benign mass that can occur in any area of the body with smooth muscle cells. Uterine leiomyoma is the most common tumor among women.

In the urinary tract, leiomyomas are rare but diagnosed most often in the kidneys, followed by the bladder. The urethra is an unusual site of this type of tumor.

CASE REPORT

A 40-year-old woman with a history of depression and surgery for esophageal achalasia consulted for a painful, rapidly growing vaginal mass that had been present for several months and caused dyspareunia.

The physical examination showed a rounded, ulcerated tumor of about 5x5 cm in the vaginal introitus; the tumor was apparently attached to the anterior aspect of the vagina, extensively implanted at the base and painful (Figure 1). The cervix was closed and allowed mobilization without pain.

The patient was followed periodically by the outpatient service and, 6 years later, at the time of writing, presented no recurrence and was asymptomatic.

DISCUSSION

Urethral leiomyoma was first described by Buttner (1) in 1894; a total of around 120 cases are published in the

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English literature. Urethral or paraurethral leiomyomas are benign mesenchymal tumors and occur mainly in women of childbearing age between age 30 and 50 years. The tumors can grow during pregnancy and return postpartum, a characteristic that indicates their probable hormonal dependence (2,3,4). Nevertheless, the masses can occasionally present in men (5) or postmenopausal women.

Ovarian hormones appear to favor development; progestogens have a greater effect than estrogens. Kesari et al reported 2 cases discovered during pregnancy and for the first time, documented the presence of positive estrogen receptors in one of them. In most cases, the immunohistochemical studies reveal the presence of ER-alpha, ER-beta and PR ovarian hormone receptors in the nucleus of the tumor cells. These findings, along with the high levels of ovarian hormones, would indicate an increase in leiomyoma tissue mitosis, which supports the theory that these hormones promote tumor growth (6,7,8). However, this theory cannot explain the 10 cases described in the male urethra (5,9).

Ozel et al differentiated between urethral and paraurethral leiomyomas and stated that, in his opinion, some cases published as urethral leiomyomas are actually paraurethral. Urethral leiomyomas originate in the urethral circular smooth muscle and can be clinically differentiated from paraurethral leiomyomas, which originate in the vaginal smooth muscle, based on a few findings:

- Urethral leiomyomas are fixed in a certain position; paraurethral leiomyomas are mobile.
- Urethral leiomyomas can protrude through the urethra (10).
- The urethra is injured in urethral leiomyoma surgery and must be repaired. Leiomyomas that are resected without injuring the urethra are unlikely to originate in urethral smooth muscle (3).
The clinical manifestations vary considerably according to site and size: urethral leiomyomas can be asymptomatic or may cause nonobstructive urinary symptoms or urinary infection, hematuria, or the presence of a mass (5, 10, 11, 12). Paraurethral leiomyomas are usually asymptomatic except for the presence of the mass, although the tumors can also cause urinary symptoms, vaginal irritation, dyspareunia or other symptoms, depending on the size.

The tumor is diagnosed by physical examination when the mass is the predominant feature of the clinical symptoms due to its size and by imaging techniques (e.g. abdominal and transvaginal ultrasound, CT, and magnetic resonance imaging [MRI]). In fact, ultrasound and MRI provide useful preoperative information. High-frequency transvaginal ultrasound shows leiomyomas as solid tumors with a homogeneous internal echostucture, can rule out infiltration and differentiate them from diverticula, and can determine their relationship with respect to the urethra (7).

Multislice MRI is useful to plan the surgery, determine whether the tumor is urethral or not, and rule out urethral diverticulum and other vaginal conditions. It will show that the tumor is well delimited and that the signal is homogeneous, allowing leiomyoma to be diagnosed preoperatively with a reasonable degree of certainty. The variation of intensity observed in the various sequences (hypointense or isointense to muscle on T1-weighted images and hyperintense or isointense on T2-weighted images) will suggest that the mass is of muscular origin (7, 13). In urethral leiomyomas, filling defects can be identified by cystourethrogram, and urethrocystoscopy can be used to visualize them and perform biopsy or resection (11). The differential diagnosis includes congenital, inflammatory, cystic, and neoplastic urethral and vaginal conditions, such as urethral caruncle, urethral diverticulum, prolapsed ectopic uretercele, Gartner’s duct cyst, carcinoma urethra, papilloma, fibrous polyp, congenital paraurethral cysts, plasmocytoma, lymphoma, leiomyosarcoma, rhabdomyosarcoma, malakoplakia (2, 4, 6, 9, 12), but the final diagnosis is histological.

A histopathological study of the surgical specimen will show well-delimited cells enveloped in a fibrous capsule and not adhered to adjacent structures. The capsule is composed of interlinked fasciculi of spindleshaped cells with eosinophil cytoplasm and centrally located nuclei, with little or no mitotic activity. Immunohistochemical techniques will reveal diffuse reactivity by smooth muscle actin, muscle-specific actin, desmin, myosin, and vimentin with no expression of CD68, S-100 protein, chromogranin, or synaptophysin (9).

Treatment consists of local resection although the surgical technique will differ according to the site of the mass:

1. Transurethral resection can be used for urethral leiomyomas in the middle or posterior urethra (11).
2. A vaginal approach should be used resection of leiomyomas in the anterior urethra, at the meatus or protruding through the meatus, and paraurethral leiomyomas.

**CONCLUSIONS**

Urethral or paraurethral leiomyomas are benign tumors that arise from the urethral or vaginal smooth muscle. Radiological findings (particularly magnetic resonance imaging) may suggest the origin of the tumor before surgery; however, the final diagnosis is determined by histology.

The prognosis of leiomyoma is very good, and no malignant transformation and only a few cases of recurrence have been reported.

**REFERENCES AND RECOMMENDED READINGS**

(*of special interest, **of outstanding interest)


CONSERVATIVE SURGERY IN SYNCHRONIC BILATERAL RENAL CARCINOMA. CASE REPORT

Tristan Dellavedova, Raul H. Nobile, Rolando Ponzano, Gustavo Minuzzi and Federico Minuzzi.

Summary.- OBJECTIVE: To describe a case of staged conservative treatment of a synchronic bilateral renal tumor, a real surgical challenge.

METHODS: 46-year old obese female who consulted for fever; bilateral solid masses >70 mm were detected and surgical treatment was offered.

RESULTS: Staged conservative treatment consisting in selective embolization of both lesions and subsequent surgery was performed. Right partial nephrectomy with ipsilateral adrenalectomy was done first, and 90 days later