Case Report

Received: March 30, 1994

Accepted after revision: September 8, 1994

Urol Int 1995;54:179

Leiomyoma of the Female Urethra

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Key Words

Leiomyoma
Urethra
Urethral neoplasms

Abstract

Benign smooth muscle tumors of the female urethra are rare. A case of urethral leiomyoma which had been present for 18 years before surgical removal is reported. The pathogenesis and the clinical aspects of this unusual clinical condition are discussed.

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Introduction

Leiomyomas of the female genital tract are common benign neoplasms, but their localization in the urinary tract is quite exceptional, being found mostly in the kidney [1]. Leiomyomas of the female urethra are exceedingly unusual, and a comprehensive recent review collected a total of 36 cases in the world literature [2]. Paraurethral leiomyomas, which arise from contiguous structures belonging to the genital tract such as the anterior vaginal wall or the vesicovaginal septum, must be distinguished from true primary urethral localizations [3].

A case of leiomyoma of the female urethra which had been present for 18 years before surgical removal is described.

Fig. 1. A Preoperative aspect of the leiomyoma arising from the upper contour of the urethral meatus. B Pathologic specimen.

Case Report

A 46-year-old woman, gravida II para 2, was referred by her gynecologist for evaluation of a mass arising from the superior contour of the external urethral meatus. The mass measured 3 × 2.5 cm, it was ovoid in shape, had a firm consistency and was covered by hyperemic mucosa (fig. 1). The patient reported no subjective symptoms and failed to recall any dyspareunia. The mass which had been noted 18 years before on occasion of her second delivery had progressively increased in size. Physical examination was otherwise normal, blood chemistries were within normal limits, and the posterior urethra and bladder were normal at cystourethroscopy.

At surgery a Foley catheter was inserted, the tumor was excised and a meatoplasty was performed using 3-0 chromic catgut interrupted sutures. Convalescence was uneventful and the patient has been followed for 1 year without local recurrence.

Histopathology revealed a benign tumor composed of spindle cells arranged in whorls and interlacing fascicles without nuclear atypia or mitoses (fig. 2). In order to characterize the nature of the lesion, immunohistochemical studies were carried out. ABC peroxidase technique revealed marked and diffuse cytoplasmic positivity for alpha smooth muscle actin and desmin (fig. 3), scant staining for vimentin and negative staining for S-100 protein. These findings were consistent with the diagnosis of benign leiomyoma.

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0042-1138/95/0543-0179

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Fig. 2. Microphotography: smooth muscle cells are disposed in interlacing fascicles and whorls, blending with fibrous stroma. There is lack of nuclear atypia and mitotic figures. HE. × 100.

Fig. 3. Microphotography: immunohistochemical study with ABC technique using a monoclonal antibody anti-alpha smooth muscle actin. There is diffuse cytoplasmic staining of all leiomyoma cells. ×250.

Discussion

Lesions of the female urethra are benign in about 95% of the cases, since a pathologic review of 394 excised masses revealed only 22 malignant tumors [4]. Urethral caruncles are by far the most common lesions, but differential diagnosis encompasses a wide array of conditions which include urethral diverticulum, mucosal prolapse, ectopic ureterocele, Gartner's duct cyst, congenital vaginal cyst, fibrous polyp, squamous carcinoma of the urethra and mesenchymal tumors (e.g. neurofibroma).

Leiomyomas of the urethra have been diagnosed in patients with an average age of 39.8 years. They are firm and painless masses which usually measure < 1 cm in diameter, but they have been known to reach occasionally a much larger size [3]. Even though their etiology is still unknown, some correlation with pregnancy has been reported, in parallel with the more common uterine

leiomyomas, which can also be associated [5, 6]. Therefore, some hormonal sensitivity may be involved, as evidenced also by the present case.

Some leiomyomas of the female urethra can be asymptomatic, and a review of the clinical presentation on 29 cases is showed in table 1. Surgical treatment is generally simple and straightforward, and a meatoplasty is advisable after the removal of larger lesions.

Local recurrence has been documented in only 2 cases [7,8], while no malignant degeneration has been reported. From a histopathologic point of view, these lesions are quite similar to uterine leiomyomas, and immunohistochemical studies may be useful in determining the origin from smooth muscle cells.

Table 1. Presenting symptoms of leiomyomas of the female urethra (n = 29)

Patients

Presenting symptoms

Vaginal mass	17	58
Urinary tract infection	14	48
Dyspareunia	7	24
Bladder outflow obstruction	4	13
Stress incontinence	2	6
Hematuria	2	6

From Cheng et al. [2], with the addition of the present case.

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180

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