

# The Hidden Intruder: A Closer Look at a Leiomyoma in the Vaginal Wall

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## Abstract

This is a case report of a rare myoma of the anterior vaginal wall that mimicked a paraurethral diverticulum in a postmenopausal woman. Surgical treatment of the lesion was performed via a transvaginal approach without complications, and the material was sent for anatomopathological examination, which confirmed the diagnosis of leiomyoma. Vaginal leiomyomas are a rare lineage of tumors at this gynecological site, with just over 300 reports worldwide. Symptoms can range from totally asymptomatic to genitourinary complaints, such as urinary incontinence to dyspareunia. The diagnosis is based on a physical examination and preoperative imaging tests (MRI, transvaginal ultrasound, cystoscopy, computed tomography), but the definitive diagnosis is histopathological analysis of the specimen. The treatment of choice is surgery with complete excision of the lesion, and in 90% of cases, the transvaginal approach is chosen.

## Keywords

Leiomyoma, Fibroid, Vaginal, Paraurethral, Case Report

## 1. Introduction

Leiomyoma in the vagina is very rare with only 300 report cases since the first detected case back in 1733 by Denys de Leyden [1]-[3]. Most commonly affects women in their reproductive years with the average age of presentation reported to be 40 years (between 35 - 50 years) [1]. This may be consistent with estrogen dependency of the lesion. It is indeed observed an enlargement during pregnancy and a regression in menopause and post-partum [4]. Although the etiology is debated, some authors hypothesized its origin in residual embryonal blood vessel tissue and smooth muscle fibres [5].

Physical examination usually shows a mass in the vaginal wall, more frequent in anterior vaginal wall (69.5%), than posterior (17%) or lateral vaginal wall (13.5%) [5]. The localization can be easily mistaken with other benign pathologies as Skene's gland abscess, prolapse, vaginal cyst, fibrous polyps and urethral diverticulum [1] [5]. A rapid growth and an infiltrative nature suggest malignancy so the possible diagnosis of leiomyosarcomas, squamous carcinomas, adenocarcinomas and more rarely metastases should be ruled out. To avoid misdiagnosis, pre-operative diagnosis can be achieved with imaging evaluation such as trans-abdominal and intravaginal sonography, magnetic resonance (MRI) [1]-[5].

Leiomyoma in the vagina can manifest as asymptomatic to excessive discharge, abnormal uterine bleeding, urinary frequency and urgency, urine retention, and dyspareunia [4].

The treatment of choice is surgery through local excision [1] [3] [5]. Nevertheless, this procedure may be technically challenging and associated with relevant complications [1]. According to the location and size of leiomyoma, the surgeries were done via vaginal approach or abdominoperineal approach, most cases are made vaginal approach (90%). Recurrence of vaginal leiomyoma is also reported. In some cases, adjuvant treatment can be applied as embolization or GnRH analogue before surgery reducing blood loss [3].

Because vaginal leiomyomas are benign and can cause uncomfortable symptoms many times which need surgical treatment. But in small asymptomatic cases without growth may be chosen to not treat, but is important to identify this pathology.

The purpose of this article is to describe a case of myoma of the anterior vaginal wall and to provide an update on this topic.

## 2. Case Presentation

The patient was a 61-year-old Caucasian woman with three pregnancies who reached menopause at 38 years of age. The patient had systemic arterial hypertension, had Grade 3 obesity, and was a smoker, and she was referred to the urogynecology department due to complaints of genital prolapse and mixed urinary incontinence. At the initial physical examination, it was difficult to evaluate the anterior wall due to a bulge of approximately 4 cm in the topography of the anterior paraurethral vaginal wall on the right, suggestive of urethral diverticulum. Unenhanced MRI of the pelvis revealed the following: an expanding lesion between the urethra and vagina on the right, most likely of urethral origin, and it had a solid mesenchymal nature (Leiomyoma? Other?) (Figure 1).

Surgical planning was performed using a transvaginal approach. Diagnostic hysteroscopy due to endometrial thickening identified on preoperative transvaginal ultrasound and cystoscopy was performed at the time of surgery. Cystoscopy showed no changes. With respect to the transvaginal approach to the lesion, U-shaped vesicovaginal space dissection was performed (Figure 2).

Periurethral lesion excision with intraoperative frozen sectioning: A solid encapsulated mesenchymal tumor sample was sent for definitive analysis. Resection of the excess mucosa was performed (Figure 3).



**Figure 1.** Preoperative magnetic resonance imaging and sagittal T2-weighted image demonstrating an expansive lesion between the posterior and right lateral contours of the lower third of the vagina, with a lower limit at the level of the urethral meatus/vaginal introitus, measuring approximately  $29 \times 2.8 \times 3.0$  cm. The lesion slightly dislocated the urethra to the left and caused a significant bulge into the vagina.



**Figure 2.** Mass in the anterior vaginal wall immediately before surgery.



**Figure 3.** Intraoperative dissection of the lesion.

The vaginal mucosa was closed with continuous sutures with 2-0 vicryl. Anteroposterior perineoplasty was also performed, and (**Figure 4**) the procedure was uneventful (**Figure 5**).

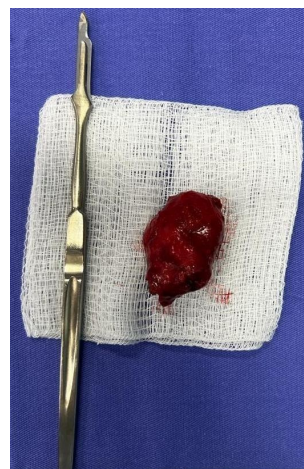


**Figure 4.** Complete dissection of the lesion during surgery.



**Figure 5.** Immediate postoperative period.

She was discharged from the hospital the morning after the procedure. Anatomopathological results and subsequent immunohistochemical analysis confirmed the diagnosis of neoplasia with smooth muscle differentiation of the leiomyoma type (**Figure 6**).



**Figure 6.** Excised lesion, measuring approximately 3 × 4 cm, in the immediate postoperative period; the specimen was sent for anatomopathological analysis.

The patient returned for outpatient consultation 30 days after the procedure, with appropriate postoperative review. Her complaint of urinary incontinence improved, but urinary urgency persisted. The patient remains under outpatient follow-up. After ethical approval and patient consent, we wrote this case report. The patient read and signed a free and informed consent form for publication of the case report, maintaining the confidentiality of any data that had identifying information, with acceptance of taking pictures used in this paper.

### 3. Discussion

Vaginal leiomyomas are uncommon benign tumors of the genital tract, with only 300 cases reported worldwide. Denys de Leyden was the first to describe a clinical

case of vaginal leiomyoma in 1733, but since then, only a few cases have been reported, leading to scarce knowledge of the true incidence of these lesions [1]. According to reports, vaginal leiomyoma most commonly affects women aged 35 to 50 years [2] [3].

Vaginal leiomyoma can occur in any location in the vagina, but it is more common on the anterior vaginal wall (69.5%) than on the posterior (17%) or lateral vaginal wall (13.5%) [5]. Paraurethral leiomyoma occurs between areas in the vesicovaginal septum or paraurethral space. A true paraurethral mass occurs when it has no connection to the urethra, bladder, or vagina [6].

Symptoms of vaginal leiomyoma vary from asymptomatic to excessive discharge, abnormal uterine bleeding, urinary frequency and urgency, urine retention, and dyspareunia, among other conditions, based on the location and size of the leiomyoma [5].

Diagnosis can be established preoperatively through clinical examination and appropriate imaging modalities, including vaginal or transperineal ultrasonography (US), pelvic MRI, voiding cystourethrography, and computed tomography (CT) [7]. A definite diagnosis is confirmed following a histopathological report [5] [8].

The treatment of choice is surgery. The vaginal approach is the favored route in 90% of cases, while only 10% of leiomyomas require an abdominal approach [1] [5]. Nevertheless, this procedure may be technically challenging and associated with relevant complications [1], and anatomical knowledge is important to facilitate favorable patient outcomes [7]. The key principles of surgery include complete excision of the lesion through dissection and identification of the pseudocapsule [1].

Recurrence is extremely rare [5] [9], and clinical follow-up is fundamental to detect early relapses and obtain a diagnosis of malignant progression [1].

With these photos and this case, we show that the surgical technique is successful in achieving anatomical repair and relieving symptoms helping others in similar cases. Other articles have not always demonstrated all the steps of the surgical procedure like ours.

#### **4. Conclusions**

Vaginal leiomyomas are uncommon benign tumors of the genital tract. Its etiology is still not clearly understood. Although it is usually a benign condition can cause symptoms that could be very discomfort. So, it's very important to know that leiomyoma could occur in the vagina and need to be a differential diagnosis of vaginal mass.

It's important to suspect in the physical exam the leiomyoma in vaginal wall, making imaging, improving early diagnosis, because minor lesions are easier to treat, without an abdominal approach or lesion of adjacent organs.

#### **Conflicts of Interest**

The authors declare no conflicts of interest regarding the publication of this paper.

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