

# A Rare Case of a Retroperitoneal Leiomyoma in the Obturator Fossa

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Received 2015 March 14; Revised 2015 April 25; Accepted 2015 June 10.

## Abstract

**Introduction:** Uterine leiomyomas are the most common benign solid tumors of the female pelvis. Retroperitoneal myomas are extremely rare and usually malignant with the common location being in the pelvis.

**Case Presentation:** Our case involved a woman who was suffering from dyspareunia and radiating right pelvic pain. The pelvic examination revealed a palpable tender mass of about 3-4 cm in size in the right adnexa near the pelvis bone. An orthopedic consultation was in favor of the mass being of gynecologic origin. A retroperitoneal approach on the right side revealed a 3 cm mass in the right obturator fossa.

**Conclusions:** The most common place for a myoma is in the uterus. However, other sites have also been presented as case reports. Most smooth muscle tumors originating in the retroperitoneum are malignant. Retroperitoneal sites for myomas are mostly in the pelvis (73.1%). The frequent symptoms of retroperitoneal masses, including myoma, are discomfort, fatigue, weight loss, and radiating pain. The common sonographic findings in these patients is a pelvic solid mass with heterogeneous features. Surgical excision is the main treatment of retroperitoneal smooth muscle tumors.

**Keywords:** Retroperitoneal Tumors, Leiomyoma, Pain, Soft Tissue Tumor

## 1. Introduction

Uterine leiomyomas are the most common benign solid tumors of the pelvis in women. Nearly 1/3 to 1/2 of women over 35 years of age have a uterine myoma (1). Although the etiology of myomas is not well understood, these tumors originate in smooth muscle cells. Estrogen (ER) is considered to be the main factor in the growth of uterine myomas. Supporting evidence for this includes: frequent occurrence of myomas in reproductive-age women, growth in pregnancy associated with higher hormone levels, and a decreased size after menopause. On the other hand, ER and progesterone (PR) receptors are both usually positively stained in myomas at about 72% for ER and 90% for PR (2, 3).

Most myomas are located in the uterus (4). The pathogenesis of an extrauterine myoma is not clear. Zaitoon has explained the detachment of the blood supply toward another site as a parasitic myoma. Another explanation is embryonal remnants (3).

The uterus is anatomically located in the visceral retroperitoneal space. With regard to the parietal peritoneum, retroperitoneal masses are rare. A review of the literature for published studies after 1941 has revealed approximately 100 retroperitoneal masses (5). In a study of 688 primary retroperitoneal tumors, 1% - 2% were leiomyomas (6). Other studies have shown that most retroperitoneal smooth muscle tumors are malignant (7, 8). A review of the literature from 1966 to 2008 confirmed that retroperitoneal myomas are extremely rare (9). In this setting, when a mass is located in the retroperitoneum, it is usually malignant (4). Other studies have reported that retroperitoneal myomas are typically malignant and they are usually located in the pelvis (5, 10). For instance, in the above-mentioned review, 8 out of 688 primary retroperitoneal masses were benign myomas. In other studies, approximately 75% - 100% of smooth muscle retroperitoneal neoplasms are sarcomatous, indicating a high risk of malignancy in these situations (1). Although unclear, embry-

onic remnants, an origin from vessel muscles, or primary multifocal origins might be considered in the pathogenesis of retroperitoneal myomas (3, 10).

The aim of this case report was to introduce a rare case of retroperitoneal myoma in the right obturator fossa with symptoms of radiculating pain into the right leg for years without a coexisting uterine myoma.

## 2. Case Presentation

Our patient was a 38-year-old woman who was referred to the Imam Hossein Medical center, gynecology clinic in 2010. She was suffering from dyspareunia feeling in right pelvic fossa in deep penetration and radiculating right pelvic pain to right leg. In her medical history, there was a surgically treated abdominal wall endometriosis with local pain following a cesarean birth of her only child about 3 years earlier. She was generally a healthy woman without any underlying diseases except for some anxiety and a background of family problems. The patient had normal vital signs and a normal general examination. In the abdominal examination, tenderness was not shown. In the pelvic examination, a tender mass of about 3 - 4 centimeters in size in the right adnexa near the pelvis bone was palpable. A transvaginal ultrasound revealed a normal uterus and left ovary as well as a solid mass of about 3 - 4 centimeters near the right ovary. An expert sonographic referral was done with similar findings. An orthopedic consultation was done and a pelvic MRI was performed. The MRI revealed a heterogeneous signal mass (3.8 × 4 cm) above the ovary with other organs appearing normal.

The final clinical diagnosis from the orthopedic service was in favor of the mass being of gynecologic origin, such as an ovary. In a procedure using the Pfannenstiel incision, pelvic organs and both ovaries were normal in appearance without any gross pathologies. With palpation, there was a firm mass about 3 cm in size near the right pelvic bony structures.

A retroperitoneal approach on the right side revealed a 3-cm mass in the right obturator fossa. The tumor location was adjacent to the iliac vessels in the obturator fossa. A successful resection of the 3-cm mass was done. The pathologic report of the mass was a benign leiomyoma. The clinical follow up of the patient showed complete relief of pelvic and leg pain and dyspareunia.

## 3. Discussion

Leiomyomas are common tumors that may originate from anywhere that smooth muscle exists (5). The most common site for a myoma is in the uterus (4). Other

leiomyoma sites have been presented as case reports. For instance, one case report describes a woman with a normal-sized uterus and three separate myomas located in the right subphrenic fossa (24 × 19 cm), mid abdomen (20 × 14 cm), and left pelvis (14 × 10 cm) (9). This case might represent a multifocal origin. Among the uncommon sites of myomas, one case report describes the site as being the upper pole of the kidney (11). Most smooth muscle tumors originating in the retroperitoneum are malignant. Therefore, careful preoperative assessment is needed to predict the malignant potential. Retroperitoneal sites for myomas are mostly in the pelvis (73%) (5). The etiology and pathogenesis of retroperitoneal myomas are not clear (4). In a systematic review of the literature from 1966 to 2003, 105 retroperitoneal myomas were reported. In 22% of these patients, there was a coexistence of uterine myomas (5). This accompaniment has been mentioned in other studies, even to above 40% uterine myoma with retroperitoneal myoma. These findings are in favor of a common predisposition of these two entities. In another study, seven retroperitoneal myomas were reported located in the pelvic area (2), pubovesical space (2), rectovaginal septum and rectal wall (2), as well as the iliac arteries (1, 4). The present case is in a different location, the retroperitoneum and the obturator fossa, without the coexistence of a uterine myoma.

The frequent symptoms of retroperitoneal masses, including myoma, are discomfort, fatigue, weight loss, and radiating pain. Asymptomatic retroperitoneal masses have been reported even in large tumors (5, 12, 13).

Sometimes acute pain due to a tumoral hemorrhage might happen (13). In the systematic review of 105 retroperitoneal myomas (1966 - 2007), 25% were asymptomatic. The most common symptom was abdominal fullness in 31.3% of cases followed by urinary symptoms, pain, and weight loss, each in 18.8% of patients. The most common physical sign in these patients was a mass (5). In a study of seven retroperitoneal myomas, two cases were asymptomatic. Two patients presented with a pelvic mass, one with pain, one with voiding problems, and the last one with weight loss (4).

In the present case, radiculating pain in the right leg was the main symptom. Dyspareunia, exactly in the right side and pelvic tenderness in the right pelvic side wall in the location of fullness was found in the physical examination. This tenderness and fullness in the right pelvic side wall suggested an osteal-orthopedic origin such as a sarcoma, which led an orthopedic consultation. The obturator site of the mass just next to the obturator nerve might explain the disturbing pain, dyspareunia, and tenderness on the right side. Sonographic examinations commonly show pelvic masses with solid or heterogeneous fea-

tures. Diagnoses before an operation can be difficult, missing with ovary as the most common challenge (14, 15).

In many cases, the exact location of the mass cannot be determined, even by MRI. Similar to other reports, in our patient, the exact site of the mass was not conclusive by sonography or MRI. A guided biopsy might be useful in the preoperative diagnosis.

Surgical excision is the main treatment for retroperitoneal smooth muscle tumors. This approach is invasive, necessitating familiarity and experience with this area. The two goals of this approach are: first, to rule out any malignancy, and second, offer pain or other symptom relief. In special situations, fine needle aspiration under sonogram or computed tomography (CT) guidance might help in obtaining a tissue diagnosis. In our case, the obturator fossa location of the tumor made surgery difficult. Tissue diagnosis, myoma, was reassuring to rule out malignancy and radiculating pain-dysparonia disappeared after surgery.

An overview of retroperitoneal myoma case reports regarding rare locations and symptoms is presented in Table 1.

**Table 1.** Location and Symptoms of Atypical Retroperitoneal Myoma Case Reports

Author	Location	Symptoms and Presentation
Maskery (16)	Pelvis, retroperitoneum	Pelvic mass
Zaitoon (17)	Pelvis area	Flank pain
Stutterecker (3)	Pubovesical septum (two cases)	1, Voiding problems; 2, Asymptomatic
Abulafia and Sherer (12)	Rectovaginal septum	Asymptomatic
Sayer and Amundsen (18)	Rectal wall	Pelvic mass
Dursun and Salman (4)	Retroperitoneal area next to iliac and aorta	Weight loss
Present case	Obturator fossa	Leg pain, pelvic mass

The presented case is a rare retroperitoneal myoma due to its atypical location (obturator fossa) and atypical symptom of right radiculating leg pain.

### Acknowledgments

We thank the clinical research development unit personnel of Imam Hossein medical center, Shahid Beheshti University of Medical Sciences for their help and support.

### Footnote

**Authors' Contributions:** Maliheh Arab, Farah Farzaneh, Behnaz Ghavami, Shiva Mohajeri, Zahra Marzban Rad, and

Adeleh Ashori equally contributed in presenting this case.

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