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The management of an unusually sited isthmicocervical leiomyoma and a huge prolapsed pedunculated submucous leiomyoma

Received: 18 September 2004 / Accepted: 4 January 2005 / Published online: 4 March 2005
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Abstract We present two case studies: an unusually sited isthmicocervical leiomyoma and a huge prolapsed pedunculated submucous leiomyoma of the uterus. Case 1 was a 25-year-old virginal woman with a diagnosis of cervical leiomyoma with symptoms of anemia and menorrhagia. Magnetic resonance imaging revealed a mass impinging on the bladder and rectum. Myomectomy was the selected operation because of the patient's age and her desire to preserve fertility, even though the tumor's size and location increased the risk of operative blood loss and would make the surgical procedure difficult to perform. The pathological specimen was benign. Case 2 was a 43-year-old patient with a chief complaint of difficulty in voiding plus severe vaginal bleeding. The gynecological examination revealed a necrotic mass that filled the vagina completely and stretched its walls. The sonographic findings were consistent with a pedunculated submucous leiomyoma. Total abdominal hysterectomy and bilateral salpingoophorectomy were performed. The histopathological evaluation was benign leiomyoma of the uterus. Cervical and pedunculated submucous leiomyomas are uncommon and represent a technicosurgical difficulty due to location and huge size. However, in order to regress the complications and improve the patient's quality of life regarding desire to preserve fertility, conservative surgical regimens should be chosen.

Keywords Prolapsed pedunculated leiomyoma · Isthmicocervical leiomyoma · Management

Introduction

Uterine leiomyomas, also known as myomas or fibroids, are by far the most common benign tumor of the female genital tract. They may be subserosal, intramural, or submucosal within the uterus, or they may be located in the cervix, in the broad ligament, or on a pedicle. They are estimated to be present in at least 20% of all women of reproductive age and may be discovered incidentally during routine examination [1]. They are clinically apparent in up to 25% of women. Submucous myomas constitute about 5% of all uterine myomas, but they are much more likely to cause profuse bleeding and anemia than those located elsewhere in the uterus [2]. Rarely, a submucous leiomyoma may become pedunculated and progressively extrude from the uterine cavity, causing increased uterine irritability and contractions, which can in turn cause cervical dilatation and effacement. Leiomyomas of the uterine cervix are uncommon. Cervical leiomyomas in nonpregnant women are rarely of clinical significance, and their complications include pressure effects on the bladder or urethra, menorrhagia and dysmenorrhea due to retrograde menstrual blood flow, and intraabdominal blood accumulation [3]. In this study, the management of an unusually located isthmicocervical leiomyoma and a huge prolapsed pedunculated submucous leiomyoma are presented as two case reports.

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Case 1

A 25-year-old virginal woman was admitted to our emergency unit with a chief complaint of difficulty voiding. She had a previous diagnosis of uterine

leiomyoma with symptoms including abnormal vaginal bleeding that varied from spotting to profuse bleeding, weakness, palpitations, and dizziness due to deep anemia. She suffered from severe dysmenorrhea, menorrhagia, and orthostatic hypotension. In the physical examination her abdomen was soft and nontender without guarding, rebound, or a palpable mass. Rectal examination was done because she was a virgin. A large firm mass, fixed to the anterior isthmicocervical part of the uterus, was found. There was no solid or cystic mass found palpable at the adnexal organs. Abdominopelvic magnetic resonance imaging revealed a smooth 125×70×70-mm heterogenous mass (Fig. 1) that was impinging on the bladder anteriorly and the rectum posteriorly. The borders of the lesion could not be identified clearly from the adjacent organs. Both of the ovaries and the pelvic vascular structures were intact. Pathologic lymphadenopathy or intraabdominal fluid collection were not identified. Myomectomy was the selected operation mainly because of the patient's age and her desire to preserve fertility, although the tumor's size and location increased the risk of operative blood loss and would make the surgical procedure difficult to perform.

Laparotomy revealed that a 10-cm solid mass at the anterior isthmicocervical portion of the uterus was displacing the bladder superiorly and anteriorly (Fig. 2). The mass had a close neighborhood to the bladder and vagina. During removal of the cervical leiomyoma, the uterine cavity and vagina were entered. A 5–6-cm defect at the anterior vaginal wall was fixed with separated sutures. After the uterine cavity was repaired, the operation ended. The only postoperative complication was febrile morbidity that occurred 2 days after the operation and lasted for 1 day, regressing with antibiotic treatment. A frozen pathological specimen was examined and was benign.

Case 2

A 43-year-old woman was admitted to Göztepe Social Insurance Training Hospital's Clinic of Obstetrics and Gynecology emergency unit with the chief complaint of difficulty voiding; she also had severe vaginal bleeding. She had nausea, vomiting, and a fever of 38°C for a few days. She had suffered from diabetes mellitus for 2 years and hypertension for 10 years, for which she took crystallized insulin, injected subcutaneously, and anti-hypertensive medication. The gynecological examination revealed a 18–20-cm hemorrhagic and necrotic mass with a smooth surface that filled the vagina completely and stretched its walls. The sonographic findings were consistent with a pedunculated submucous leiomyoma that originated from the posterior uterine wall and extruded through the cervix. The 114×108×182-mm lesion was a solid heterogenous structured mass with a stalk 20 mm thick. The patient's white blood cell count was 17,800 mm³, hemoglobin was 7.9 mg/dl, and hematocrit was 29.2%. Therefore, a transfusion of two units of blood was planned to treat her clinically apparent anemia, and she was put on a wide-spectrum antibiotic regimen.

As soon as laboratory findings and clinical signs and symptoms of anemia and infection had resolved, therapeutic surgery was planned. Total abdominal hysterectomy and bilateral salpingoophorectomy were the choice of surgical management. After the round, infundibulopelvic, sacrouterine, and cardinal ligaments and the uterine artery were ligated and cut, a circular incision at the anterior vaginal wall was made, and a submucous leiomyoma protruding into the vagina was simply cut from its peduncle (Fig. 3). By forcing from the vagina inferiorly, the myoma could have been extruded from a circular incision to the abdomen. Later, abdominal hysterectomy was completed. There was no significant

Fig. 1 Magnetic resonance image of 125×70×70-mm cervical leiomyoma

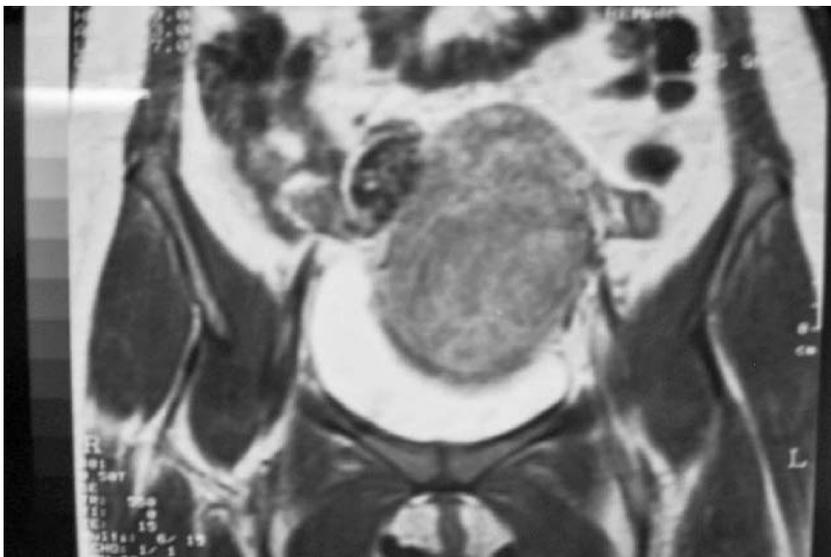
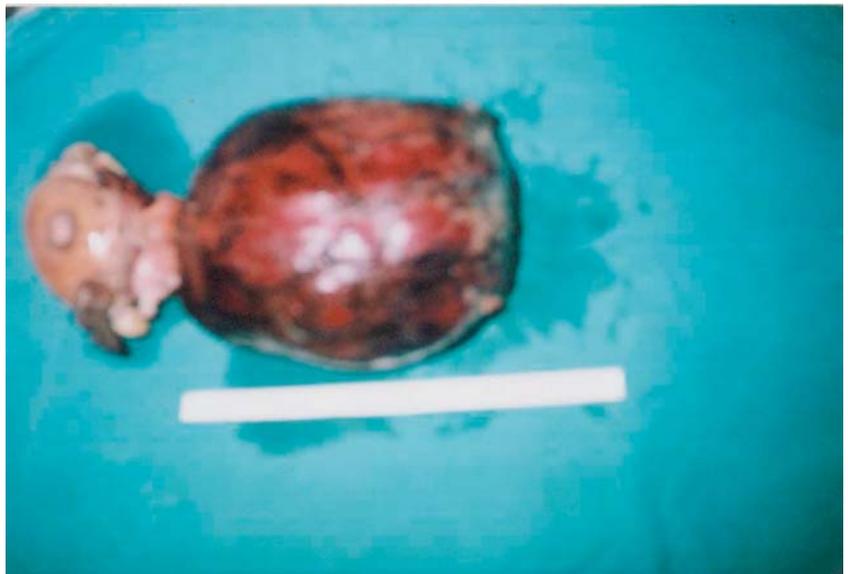


Fig. 2 Perioperative view of isthmicocervical myoma



Fig. 3 Uterus, bilateral adnexa, and intravaginal pedunculated myoma



early or late postoperative complication. The histopathologic evaluation revealed the lesion to be a benign leiomyoma of the uterus.

Discussion

Uterine leiomyomas are the most common benign tumors of the female genital tract. Although most myomas are considered to be asymptomatic, 20–50% produce symptoms that include menorrhagia, pelvic pain or pressure, infertility, recurrent pregnancy loss, and impingement on adjacent organs that causes constipa-

tion, urinary frequency, and hydronephrosis [4]. Uterine leiomyomas are the most common indication for hysterectomy. Hysterectomy and abdominal myomectomy have been the mainstay of fibroid treatment, but various minimally invasive procedures have also been developed.

Leiomyomas of the uterine cervix are uncommon. To establish their frequency, Tiltman [5] macroscopically and microscopically examined 661 consecutive total hysterectomy specimens. Myometrial leiomyomas were present in 427 uteri (64.6%), but cervical leiomyomas were seen in only four (0.6%). In nonpregnant women, cervical leiomyomas rarely have clinical significance. Menorrhagia, pressure effects on the bladder and

urethra, and degenerative phenomena are the main complications of these tumors. For the symptomatic fibroid, hysterectomy is the surgical procedure of choice, offering a definitive solution. These cervical leiomyoma cases represent a technicosurgical difficulty because of tumor location and large size, as in our case 1. However, hysterectomy is not the preferred solution for a woman 25 years of age who wishes to preserve her reproductive potential. Therefore, in order to regress the complications of a large symptomatic cervical myoma and to improve her quality of life, the myomectomy decision was made after informing the patient of the risks and benefits associated with this surgical option. Abdominal myomectomy is successful in alleviating symptoms in approximately 80% of cases and so should be considered a viable alternative to hysterectomy for symptomatic myomas [4].

Alternative therapy regimens for leiomyomas are available; the patient's age, symptoms, and risk factors and the therapy's cost and side effects should be considered. Medical therapy, myolysis, and selective artery occlusion are some of the conservative treatment modalities used today instead of surgical alternatives such as myomectomy and hysterectomy. Medical management can alleviate the symptoms of uterine leiomyomas, but cost and side effects may limit their long-term use. Hysteroscopic myomectomy can be considered as a first-line treatment modality only for intracavitary small leiomyomas. Laparoscopic myolysis may present an alternative to myomectomy and hysterectomy, but only when the patient has no desire for pregnancy. For uterine artery occlusion, long-term data regarding efficacy, fecundity, pregnancy outcomes, and patient satisfaction are lacking [6]. Hysterectomy may be offered as a definitive treatment with high levels of satisfaction, but myomectomy is an option for women who want to preserve fertility. Therefore, although the critical location and huge size of the tumor increased the risk of intraoperative and postoperative complications, myomectomy was the choice of treatment in case 1.

Ben-Baruch et al. [7] yielded a 2.5% relative rate for pedunculated submucous leiomyomas. Submucous myomas can be presented with irregular uterine bleeding that varies from spotting to profuse bleeding. A submucous leiomyoma may become pedunculated and progressively extruded from the uterine cavity, so pelvic pain can be the major complaint due to increased uterine irritability and contractions. These tumors are mostly diagnosed incidentally during routine gynecological examination without significant signs and symptoms. In

our case, the patient presented with an acute episode of severe vaginal bleeding. A pedunculated leiomyoma may twist around its pedicle, impair blood supply, and become necrotic. A necrotic leiomyoma may become infected, especially if prolapsed into the vagina. Our patient presented with systemic signs and symptoms of infection including nausea, vomiting, increased body temperature, and leukocytosis due to generalized infection.

Unless there are other indications necessitating hysterectomy, vaginal myomectomy is the most satisfactory treatment for prolapsed submucous myoma for patients of reproductive age who desire to preserve fertility. The vaginal myomectomy is a simpler, less time-consuming, and less complicated procedure, whereas in view of the danger of hemorrhagia, the surgeon should avoid an aggressive trial and perform a hysterectomy. Our 43-year-old patient decided that she had completed childbearing and did not want uterine conservation, so hysterectomy was the chosen treatment for her. During ultrasonographic examination, the thickness of the origin of the stalk was measured to be 20 mm in diameter. This helped make the decision for hysterectomy. Although each case is unique, vaginal myomectomy is the initial treatment of choice for pedunculated prolapsed submucous leiomyomas except those of huge size. However, indications requiring an abdominal approach should always be taken into consideration.

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