Case Report ISSN 2835-6276

American Journal of Medical and Clinical Research & Reviews

Leiomyoma with abscess inside

Rubén Reyna Juárez [1], Leydy Gavaleth Ávila Carrasco [2], Alejandro Lenin Villalobos Rodríguez [3], Guillermo Padrón Arredondo [4] Isa Dalai García Núñez [5]

[1,5] Undergraduate intern
[2,3] Obs-Gyn
[4] General Surgeon

*Correspondence: Alejandro Lenin Villalobos Rodríguez

Received: 02 Oct 2024; Accepted: 05 Oct 2024; Published: 10 Oct 2024

Citation: Alejandro Lenin Villalobos Rodríguez. Leiomyoma with abscess inside. AJMCRR 2024; 3 (10): 1-6.

Abstract

Background: *Uterine leiomyoma is a common disease. The tumor does not cause symptoms at first, but as the tumor gradually increases, patients come to us with typical symptoms of obstruction and abdominal mass, which only arise when the size is massive.*

Clinical case: *A 48-year-old woman with a history of intestinal occlusion with restricted urine flow, dyspnea, abdominal pain, and a palpable mass, for which she comes to the service for care. The tumor measured 27x20x20 cm, abscessed with 200 cc of purulent fluid and weighed 7.200 kg.*

Discussion: *Uterine leiomyoma is a benign gynecological tumor originating from smooth muscle cells that affects up to 80% of women. Of these, only 20 to 30% have symptoms. Multiple risk factors are associated with the development of leiomyomas, the most common being nulliparity, obesity, early menarche, African ancestry and age, all of them secondary to prolonged exposure to estrogens or genetic predisposition. Uterine myomatosis affects 40% of women over 35 years of age. It is a benign neoplasia made up of smooth muscle. The most frequent region is the body of the uterus but it can occur in the cervix and exceptionally it extends towards the broad ligaments, splitting its two peritoneal layers (intraligamentary). Eventually, myomas can suffer hyaline, cartilaginous degeneration, aseptic, calcium, fatty, edematous, sarcomatous or cystic necrosis. Cystic degeneration occurs in only 4% of cases. Depending on their location, myomas can be submucosal, intramural or subserous; the latter may become pedunculated and mimic a malignant epithelial ovarian neoplasm.*

Conclusion: *The present case highlights the importance of a high index of clinical suspicion and a multidisciplinary approach in the management of giant uterine leiomyomas.*

Keywords: Myoma; Leiomyoma, Abscess leiomyoma; Surgery.

BACKGROUND

Uterine leiomyomas, also known as fibroids, are benign tumors originating from the smooth muscle tissue of the uterus. They are the most common tumors in women and may be multiple or single.

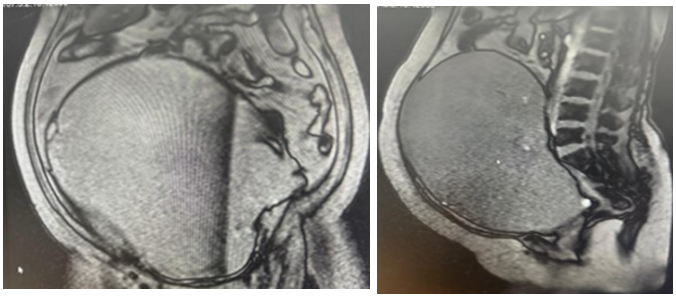
The largest uterine mass reported by Hunt SH [1] in 1888 to date as an autopsy finding weighed 63.6 kg; in 1930 Behrend, et al, [2] resected a 60.7 kg uterine myoma. In 1973 Singhabhandhu et al,[3]. reported the largest mass removed, a 45.5 kg uterine myoma. In May 2003 Oelsner, et al. [4], published two cases of fibroids weighing 40 and 43 kg, respectively. These historical cases highlight the importance of close monitoring of uterine myomatosis, as they should be surgically resolved at much earlier stages. Leiomyomas are classified as giant when their weight exceeds 11.4 kg [5].

CLINICAL CASE

A 48-year-old female came to the gynecological-obstetrics service with a large myoma that had been developing for 16 months. Hereditary family history: not relevant to the case. Upon questioning, the patient reported that she had been short of breath when lying down for two months and that the tumor had increased in size over the last four months.

Physical examination. Globular abdomen at the expense of the fatty tissue. An abdominal tumor of approximately 30 cm was palpated, with irregular edges, painful on superficial palpation, with no signs of peritoneal irritation. USG. Image compatible with a giant myoma in the lower abdomen, measuring 29 x 30 x 16 with a volume of 7200 cc. Magnetic resonance imaging: Large abdominal-pelvic tumor with defined edges and hypotensive appearance on T1 and T2 with minimal enhancement on gadolinium study, suggestive of fibrothecoma (Figs. 1, 2). Laboratory tests: preoperative and tumor markers were normal. Abdominal surgery was performed and a 7200 g leiomyoma was found in the pelvic cavity with an indurated area on the right side with lateral displacement of the bladder to the left (Figs. 3, 4).

Figures 1, 2.

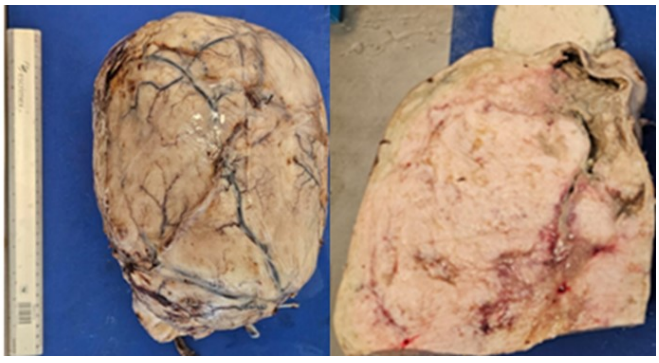


[1,2] Magnetic resonance imaging: Large abdominopelvic tumor with defined borders and hypotensive appearance on T1 and T2, Images suggestive of Fibrothecoma of the right ovaries.

Figures 3, 4.

[3] Preoperative image [4] Image during surgery

Figures 5, 6.



[5] Specimen with dimensions of 27 x 20 x 18 cm and moderately firm consistency.

[6]A perforation area measuring 5.4 x 2 cm which presents abundant grayish-green fibrin, which partially extends into the tumor

DISCUSSION

Uterine leiomyoma is a benign gynecological tumor originating from smooth muscle cells that affects up to 80% of women. Of these, only 20 to 30% present symptoms. Multiple risk factors are associated with the development of leiomyomas, the most common being nulliparity, obesity, early menarche, African ancestry, and age, all of them secondary to prolonged exposure to estrogens or genetic predisposition.

Giant leiomyomas, in addition to the increase in abdominal size that is usually reported, present other common clinical signs that are mainly related to extrinsic compression. For example, worsening of renal function, intestinal obstruction, venous stasis, respiratory distress, thrombosis, and lymphedema. The incidence of leiomyoma is subjective since it is frequently asymptomatic. In women of reproductive age, its prevalence is 12-25% [6].

Uterine myomatosis affects 40% of women over 35 years of age. It is a benign neoplasia made up of smooth muscle. The most frequent region is the body of the uterus, but it can occur in the cervix and, exceptionally, it extends to the broad ligaments, splitting its two peritoneal layers (intraligamentous fibroid). Eventually, myomas may suffer hyaline, cartilaginous degeneration, aseptic, calcium, fatty, edematous, sarcomatous or cystic necrosis. Cystic degeneration occurs in 4% of cases. Depending on their location, myomas may be submucosal, intramural or subserous; the latter may be pedunculated and simulate a malignant epithelial neoplasia of the ovary [7, 8].

Cases of myomatosis are rare in adolescents. Multiple theories have been proposed to explain the rapid growth of these tumors, which are derived from monoclonal precursor cells apparently influenced by growth factors and stimulation by estrogen and progesterone. In this age group, the clinical manifestation of leiomyomas usually includes irregular uterine bleeding, pelvic pain, or symptoms secondary to compression of intra-abdominal structures [9].

Submucosal leiomyomas produce metrorrhagia; intramural leiomyomas produce pain and metrorrhagia; and subserous leiomyomas maybe asymptomatic or may present symptoms of compression on ureters, bladder, small intestine or colon, liver and retroperitoneal vessels, among others, depending on the size they reach and their position [10].

It is rare to find uterine myomatosis of more than 10 kg, since growth is slow and, although in many cases they are asymptomatic, when they grow above 5 kg, the data of compression on neighboring organs make the patient go to the doctor [11].

The parameter used to describe the size of the myoma is the weight and not the measurements, a giant myoma is defined as a weight ≥ 11.3 kg and a large myoma as a weight between 0.8-11.3 kg, so in our case of 7200 kg it does not meet the requirement to be considered large or giant, however, the size was considerable and it was decided to report this rare case in our setting [12].

There are different morphological variants of leiomyomas, from the point of view of the type, arrangement and appearance of the cellularity, number of mitoses and relationship with the blood vessels that are compromised according to the growth of the myomas (under-irrigated). These alterations

occur in 30% of cases and can appear at any age, but their maximum frequency occurs after 40 years of age.

Likewise, there are degenerative changes that are a frequent phenomenon in fibroids, especially the larger they are, such as apoplexy, atrophy that almost always begins after menopause and occasionally a little earlier; hyalinization occurs in 60% of tumors and is the most common degenerative change that can involve areas or the entire tumor, assuming a pale, homogeneous eosinophilic appearance with the swirling pattern fading in the areas of hyalinization.

Another particular form is red degeneration (it generally appears only during pregnancy and is clinically manifested by acute abdominal pain); a fibroid with red degeneration, in the long term, can develop peripheral calcification, frequently in older women. Another rare form that a fibroid can suffer is necrosis, which can be seen on macroscopic examination as a pale, softened gray mass; which occurs in approximately 10% of all myomas; necrosis may appear in relation to menstruation, but it most frequently occurs during pregnancy and the puerperium; it may also appear as a consequence of the ingestion of ergot preparations.

Hydropic degeneration is frequently observed in focal form, although on other occasions this degeneration occurs diffusely within the myoma, which may result in different morphological patterns such as: a) perinodular hydropic change, b) hydropic change that extends beyond the confines of the leiomyoma resembling a myxoid leiomyosarcoma, and c) extensive or subtotal replacement of the leiomyoma by hydropic tissue accompanied by numerous vessels that obscure the myoid nature of the tumor; However, sometimes this type of change is very intense and can form cystic cavities, becoming a cystic degeneration that occurs in 4% of uterine fibroids.

Finally, malignant or sarcomatous degeneration is rare and occurs in only 0.29% of cases, this sarcomatous transformation starts at the center of the tumor [13].

Uterine torsion is an extremely rare condition, meaning a rotation >45 degrees around the long axis of the uterine body. Common causes include pregnancy, giant fibroids, and ovarian cysts. It is reported in women at any age and is most common in women of reproductive age. Clinical manifestations of uterine torsion include abdominal pain, nausea, vomiting, and urinary symptoms.

Uterine torsion is often overlooked or misdiagnosed due to atypical clinical symptoms. Computed tomography (CT) or magnetic resonance imaging (MRI) is helpful for the diagnosis of uterine torsion. Typical imaging findings include helical changes of the uterus and torsional jumps of the uterine vessels [14].

Regarding its treatment, management of perioperative complications and careful planning of complex surgical procedures are required before surgery. Jonas et al. [15] reported a perioperative mortality rate of 15–17% among patients with giant uterine leiomyomas weighing more than 11.34 kg. Lim et al. reported a 27.8-kg giant uterine leiomyoma; its removal resulted in 7 L of intraoperative bleeding, postoperative circulatory disorder, and abnormal coagulation. Steward et al. [16] also reported an 11.6 -kg giant uterine leiomyoma that required salvage surgery, including bilateral iliac artery ligation for

diffuse intravascular coagulation caused by 2 L of intraoperative bleeding, followed by 5 L of intraperitoneal rebleeding, as well as massive transfusion and systemic treatment in the intensive care unit.

Furthermore, Amber et al. [17] reported a 26.9 kg giant uterine leiomyoma; during surgery, 2 L were lost through intraperitoneal rebleeding after 1.8 L of intraoperative bleeding that caused hypovolemic shock despite careful preoperative examination and intraoperative vascular management. These reports indicate the risk of massive bleeding and the difficulty of surgical procedures associated with the removal of giant uterine leiomyomas [18].

CONCLUSION

The present case report highlights the importance of a high index of clinical suspicion and a multidisciplinary approach in the management of uterine leiomyomas.

Funding: None

Conflicts of interest: None

References

1. Hunt SH. Fibroid weighing one hundred and forty pounds, Am J Obstet Gynecol. 1888; 21:62-3.
2. Behrend M. Report of a case of fibromyoma of the uterus weighing 133 pounds removed at operation, Am J Obstet Gynecol 1930; 20:699.
3. Singhabhandhu B, Akin JT, Ridly JH. Giant leiomyoma of the uterus, Am Surg.1973; 39:391-7.
4. Oelsner G, Elizur SE, Frenkel Y, Carp H. Giant uterine tumors: two cases with different clinical presentations, Obstet Gynecol. 2003; 101 (5Pt2):1088-91.
5. Costa Benavente L, Silva Barroso F, Ávila Flores E. Mioma uterino gigante, Ginecol Obstet Mex. 2005; 73:563-5.
6. Oliveira Brito LG, Lysei Ueno N, Rossmann Machado M. Does Big Mean Evil? Giant, but Benign Uterine Leiomyoma, Rev Bras Ginecol Obstet. 2021; 43(1):66-71.
7. Ortiz González J, Puente Palacios L, Uscanga Chávez E, Espinoza Morales E, Coronel Brizio PG. Leiomioma quístico gigante que simula un cáncer de ovario. Informe de un caso, Rev Sal Q Roo. Enero-marzo 2013; 6(23):18-20.
8. Vega-Ruiz FJ, Barceló-Mancillas DA, Gutiérrez-de la Vega D, Luis-Zárate H. Leiomioma quístico gigante que simula una tumoración ovárica. Reporte de un caso, Ginecol Obstet Mex. 2017 mayo; 85(5):325-30.
9. Fitch Picos K, Rojas-Serrato J, Zamora-Palacios J, Vázquez-Briseño A, Sepúlveda Blanco J. Leiomioma uterino gigante en adolescente mexicana de 14 años, un caso raro de sangrado uterino anormal. Reporte de caso, Ginecol Obstet Mex. 2023; 91 (7):521-6.
10. Marrero-Quiala L, Serra-Valdés M, Aleaga-Hernández Y. Leiomioma uterino gigante. Reporte de un caso, Rev Finlay. Octubre 2014; 4 (3):210-5.
11. Zermeño Gómez MG. Leiomioma uterino gigante, Cir Gen. 2007; 29(3):237-40.
12. Llajaruna E, Minchola J, Mendoza A, Velásquez K. Mioma uterino gigante, Interc Méd. 2021; 11(1): 22-7.
13. López Ovando N, Ferrufino Navia G, Guardia Bilbao R, Arce Morales LA. Leiomioma celular gigante con degeneración roja, hidrópica y quística: reporte de un caso, Gac Med Bol. 2020; 43(2):215-8.

14. Ye Z, Jiang Y, Yan K, Yu C. Uterine torsion with degeneration and infarction of giant leiomyoma in a postmenopausal woman: A case report. Medicine 2023; 102:45(e35964).
15. Jonas HS, Masterson BJ. Giant uterine tumors: case report and review of the literature, Obstet Gynecol. 1977; 50(1), 2s-4s.
16. Steward RG, Denhartog HW, Katz AR. Giant uterine leiomyomata, Fertil Steril. 2011 Mar 1; 95(3):112.e15-7.
17. Amber I, Kennedy G, Martinez H, Pearson JM, E. Jimenez A. leiomyoma in a cachectic woman presenting as a giant abdominal mass, J Radiol. Case Rep. 2009; 3 (10) 23-9.
18. Yamamoto A, Suzuki S. Successful surgical treatment of a giant uterine leiomyoma: A case report, Int J Surg Case Rep. 2021; 87:106416.