wjpmr, 2024, 10(7), 13-16

SJIF Impact Factor: 5.922

WORLD JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.wjpmr.com

Case Report

ISSN 2455-3301

WJPMR

CYSTIC AND HYALINE DEGENERATION OF A GIANT UTERINE LEIOMYOMA: A CASE REPORT AT THE IBN SINA MATERNITY HOSPITAL IN RABAT

Fatima Zahra El Harraz[1]*, Oumaima Sarhdaoui[2], Douae Riali[1] and Zaki El Hanchi[1]

[1]Gynaecology-Obstetrics and Endocrinology Department, Maternity Souissi, University Hospital Center IBN SINA, University Mohammed V, Rabat, Morocco.

***Corresponding Author: Fatima Zahra El Harraz**

Gynaecology-Obstetrics and Endocrinology Department, Maternity Souissi, University Hospital Center IBN SINA, University Mohammed V, Rabat, Morocco.

Article Received on 24/04/2024 **Article Revised on 14/05/2024** **Article Accepted on 03/06/2024**

ABSTRACT

Uterine fibroids (leiomyomas) are the most common benign pelvic tumors. The typical appearances of leiomyomas are easily recognized on imaging. Indeed, leiomyomas have the potential to expand, sometimes outgrowing their blood supply, which can lead to hemorrhage, fibrosis, calcification, and atrophy. These pathological processes often result in degeneration of the leiomyomas, which can manifest as red degeneration, hyaline degeneration, cystic degeneration, or myxoid degeneration. However, atypical appearances resulting from degenerative changes may cause confusion in diagnosis. Magnetic resonance imaging (MRI) is the most accurate imaging technique for characterizing fibroids. We present a rare case of a patient diagnosed with hyaline and cystic degeneration of a uterine leiomyoma in the context of a polymyomatous uterus.

INTRODUCTION

Uterine fibroids (also known as myomas or uterine leiomyomas) are tumors of smooth muscle cells, representing the most common gynecological pathology in women. They are the most common benign gynecological tumors in women of childbearing age.[1] They are rarely discovered before puberty and typically regress after menopause.[2] There are a multitude of risk factors associated with the development of leiomyomas, including race, parity, early onset of menstruation, hormonal contraception, hypertension, and genetics.[3]

While the majority of patients with leiomyomas are asymptomatic, approximately one- third may experience symptoms such as abdominal pain, the presence of a palpable mass, or vaginal bleeding.[4] Fibroid degeneration typically occurs when a fibroid outgrows its vascular supply.[5] A myomatous uterus can contain one or multiple nodules that may undergo hyaline, myxoid, or cystic degeneration. Hyaline degeneration, the most common, occurs in 60% of cases. Cystic degeneration, observed in 4% of cases, can mimic ovarian cancer.[6]

We present a rare case of a patient diagnosed with hyaline and cystic degeneration of a uterine leiomyoma in the context of a polymyomatous uterus.

CASE REPORT

This concerns a 36-year-old patient of Afro-American origin, divorced, nulliparous, with no notable medical history, who presented to the Gynecology clinic with abdominal distension evolving for one year, abdominal pain suggestive of heaviness, and recurrent bleeding in the context of preserved general condition. She also complained of constipation for one month.

General examination revealed a conscious patient stable on hemodynamic and respiratory levels, weighing 97 kg and measuring 1.56 m (body mass index = 39.9 kg/m2) with paleness of the skin and mucous membranes and a regular tachycardia at 110 beats per minute. Abdominal examination revealed the presence of a resilient abdominopelvic mass halfway between the umbilicus and the xiphoid process, with a separation groove from the uterus, and on rectal examination, an enlarged uterus was palpable, mobile upon manipulation of the mass by abdominal palpation.

Pelvic ultrasound showed a polymyomatous uterus with a heterogeneous pedunculated pelvic mass containing anechoic areas suggestive of a cystic degeneration myoma, with a thin endometrium measuring 4 mm, and both ovaries could not be identified.

Blood tests revealed hypochromic microcytic anemia with a hemoglobin level of 9 g/dl and a ferritin level of 6 nmol/L. The pregnancy test was negative. CA125 was 7 U/mL.

Abdominopelvic CT scan confirmed the mixed nature of the pelvic mass and the polymyomatous uterus. The tumor measured 25 cm in the longest axis with regular

contours. There was no ascites or abdominopelvic lymphadenopathy. Other abdominal and pelvic organs were normal.

Pelvic IRM revealed a polymyomatous uterus with numerous myomatous nodules, the largest measuring 6 x 5 cm, and also identified a large subserous-pedunculated mass on the anterior surface of the uterine body, 25 cm in length, largely liquefied with well-defined boundaries attached to the serosa by a narrow stalk, showing heterogeneous enhancement with small focal non-enhancing areas, suggestive of a degenerating subserous myoma. Both ovaries were identified and showed normal signal intensities.

Exploratory laparotomy was performed through a xyphopubic incision and revealed a polymyomatous uterus (**Figure 1**) with an anterior corporal myoma measuring 7 cm in length, 2 posterior corporal subserous myomas classified as FIGO 6 measuring 5 cm and 4 cm respectively, and a highly vascularized pedunculated corporal myoma with a cystic appearance on its lower surface, classified as FIGO 7 with a narrow implantation base measuring 25 x 20 cm (**Figure 2**). The ovaries were normal, and there was no intraperitoneal effusion.

A myomectomy was performed without opening the uterine cavity, followed by padding of the residual cavity with good hemostasis obtained and closure in layers. Postoperative follow-up was uneventful, with discharge home after 4 days of hospitalization.

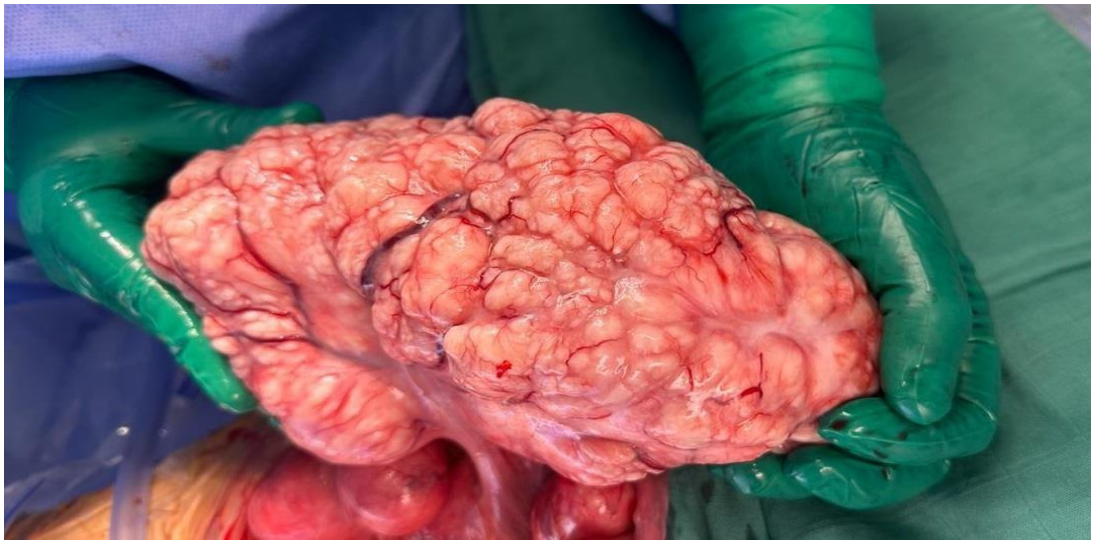

Figure 1: Vascularized pedunculated corporal myoma with a narrow implantation base measuring 25 x 20 cm.

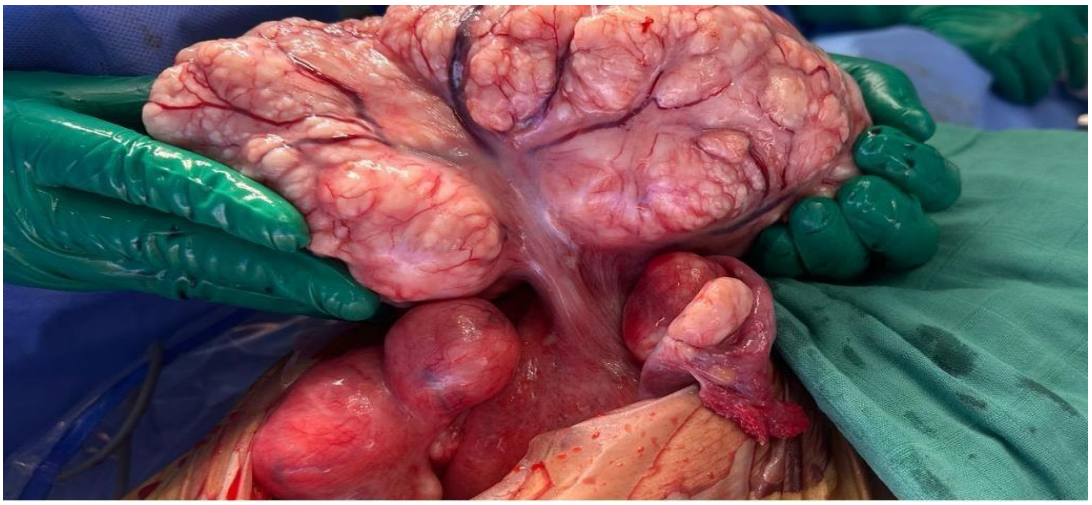

Figure 2: Polymyomatous uterus with A uterine fibroid undergoing degeneration.

Histological examination of the operative specimens showed 4 leiomyomas without signs of malignancy, including one leiomyoma with small foci of hydropic degeneration retaining benign characteristics and a focus of hyalinization with collagen intercalated with extracellular edema confirming hyaline and cystic degeneration of the fibroid.

A 6-month follow-up ultrasound showed no recurrence of the myoma.

DISCUSSION

The uterine fibroid is a benign tumor of the smooth muscle cells of the uterus[1,2] and it is the most common tumor in women of childbearing age.[7]

Ultrasound evidence shows that over 80% of African American women and approximately 70% of white women will have uterine fibroids by the age of 50.[8]

African American women have a threefold higher age-adjusted incidence rate and a threefold higher relative risk of fibroids after adjusting for other confounding factors.[9]

African ancestry is considered a key risk factor for the development of fibroids. African American women are diagnosed with fibroids at an earlier age, are more likely to be symptomatic, and may have different responses to medical treatment compared to white women.[10]

Fibroids typically grow slowly throughout a woman's life. However, their blood supply can sometimes become inadequate, leading to degeneration. There are different processes of fibroid degeneration. The most common is hyaline degeneration, accounting for about 60% of all degenerative fibroids. Other types include: myxomatous degeneration, calcification, mucoid degeneration, cystic degeneration, red degeneration, and fatty degeneration.[5,6]

Cystic degeneration mainly affects pedunculated subserosal fibroids, while a pedunculated subserosal fibroid can be mistaken for an ovarian lesion.[11] Ovarian origin can only be ruled out if the ovaries are visualized separate from the mass or the pedicle connecting the mass to the uterus. Ultrasound and Doppler visualization are not straightforward.[12]

Most uterine fibroids are asymptomatic and go undiagnosed.[13,14] However, if symptomatic, the symptoms vary depending on the location, size, and degenerative changes of the fibroid. Common symptoms include menometrorrhagia (abnormal uterine bleeding during menstruation) and/or pelvic pain, or fertility issues.[4,15]

Ultrasound is the preferred examination for diagnosis, but in the case of large or atypical fibroids, or in the presence of a polymyomatous uterus or associated uterine pathology, it may not be specific. Additionally, it may not be feasible via transvaginal route in patients who are still virgins.[1]

The CT scan is not a reliable diagnostic tool for uterine fibroids. The appearance of fibroids on a CT scan is similar to that of normal myometrium unless there is calcification or necrosis. In the case of a giant fibroid with cystic degeneration, the CT scan confirms the mixed nature of the tumor, with a predominant multilocular appearance of the cystic component. It also specifies the presence or absence of ascites, regional lymphadenopathy, and distant metastases.[16]

Dynamic three-phase Magnetic resonance imaging (MRI) and diffusion-weighted imaging is more useful and has been proposed to differentiate degenerating leiomyomas from ordinary leiomyomas, showing that it allows for precise pre- therapeutic diagnosis.[8,17]

The management of uterine fibroids includes watchful waiting, medication, and surgery. Surgical intervention is recommended in the case of a giant fibroid. Laparotomy myomectomy is recommended for multiple fibroids (≥ 3) or those larger than 9 cm.[18]

Hysterectomy remains the treatment of choice in the absence of a desire for pregnancy, regardless of the type (total or subtotal) or approach.[19]

Uterine fibroid embolization is a new therapeutic approach, as it induces ischemia resulting in selective necrosis of the fibroids, reduction in their volume, and resolution of symptoms. There is no threshold for the number or size of fibroids that can benefit from embolization, but it is recommended to treat a single submucosal fibroid (type 0 and/or type 1) or a pedunculated subserosal fibroid with embolization.[20]

Polymyomectomy was the appropriate choice for our patient given the multiplicity and size of the fibroids and the patient's young age with a desire to preserve fertility. It was performed in a xyphopubic manner to accommodate the size of the mass in our case.

The histopathological examination provides the precise positive diagnosis. It confirmed the absence of a distinct wall, the absence of atypia of connective and muscular cells, and the cystic and hyaline degeneration of the myomas.[18]

CONCLUSION

Uterine leiomyomas are the most common gynecological neoplasms. The typical appearances of leiomyomas are easily identifiable on imaging. However degenerative fibroids can have variable characteristics and pose diagnostic challenges. They are difficult to diagnose using routine imaging. Laparoscopic intervention should be considered as the first-line management.

DECLARATIONS

Guarantor of Submission

The corresponding author is the guarantor of submission.

ACKNOWLEDGEMENTS

None.

Funding

There are no funding sources to be declared.

Availability of data and materials
Supporting material is available if further analysis is needed.

Competing interests
The authors declare that they have no competing interests.

Consent for publication
Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Ethics approval and consent to participate
Ethics approval has been obtained to proceed with the current study. Written informed consent was obtained from the patient for participation in this publication.

REFERENCES

1. Salman T, Davis C. Uterine fibroids, management and effect on fertility. Curr Opin Obstet Gynecol., 2010; 22: 295e303.
2. Englund K, Blanck A, Gustavsson I, Lundkvist U, Sjoblom P, Norgren A, Lindblom B. Sex steroid receptors in human myometrium and fibroids: Changes during the menstrual cycle and gonadotropin-releasing hormone treatment. J Clin Endocrinal Metab., 1998; 83: 4092e6.
3. Steward EA, Cookson CL, Gandolfo RA Épidémiologie des fibromes utérins: une revue systématique. BJOG., 2017; 124 (10): 1501-1512.
4. Ryan GL, Syrop CH, Van Voorhis BJ. Role, epidemiology, and natural history of benign uterine mass lesions. Clin Obstet Gynecol., 2005; 48: 312–324.
5. Persaud V., Arjoon PD Léiomyome utérin. Incidence du changement dégénératif et corrélation des symptômes associés. Obsteté. Gynécol., 1970; 35(3): 432-436.
6. Mayer DP., Shipilow V. Ultrasonogragy and magnetic resonance imaging of uterine fibroïds. Obstet Gynecol Clin North Am., 1995; 22: 667-725.
7. Wallach EE, Vlahos NF. Uterine myomas: an overview of development, clinical features and management. Obstet Gynecol., 2004; 104(2): 393-406.
8. Baird DD, Dunson DB, Hill MC, Cousins D, Schectman JM. Incidence cumulative élevée de léiomyome utérin chez les femmes noires et blanches : preuves échographiques. Suis J Obstet Gynecol. Janvier, 2003; 188(1): 100-7.
9. Marshall LM, Spiegelman D, Barbieri RL, Goldman MB, Manson JE, Colditz GA et al. Variation de l'incidence des léiomyomes utérins chez les femmes préménopausées selon l'âge et la race. Obstet Gynecol. Décembre, 1997; 90(6): 967- 73.
10. Jacoby VL, Fujimoto VY, Giudice LC, Kuppermann M, Washington AE. Disparités raciales et ethniques dans les affections gynécologiques bénignes et les chirurgies associées. Suis J Obstet Gynecol. Juin, 2010; 202(6): 514-21.
11. Baltarowich OH, Kurtz AB, Pennell RG, Needliman L, Vilao MM, Goldberg BB. Pitfalls in sonographic diagnosis of uterine fibroïds. AJR Am J Roentgenol., 1988; 151: 725-8.
12. Yeh HC, Kaplan M, Deligdich L. Parasitic and pedonculated leiomyomas: ultrasonographic features. J Ultrasound Med., 1999; 18: 789- 94.
13. Guillaume Legendre*, Hervé Fernandez*. Actualisation de la prise en charge des myomes. La Lettre du Gynecologue n° 370 – mars 2012.
14. Okolo S. Incidence, aetiology and epidemiology of uterine fibroids. Best Pract Res Clin Obstet Gynaecol., 2008; 22: 571—88.
15. Lippman SA, Warner M, Samuels S, Olive D, Vercellini P, Eske-nazi B. Uterine fibroids and gynecologic pain symptoms in apopulation-based study. Fertil Steril., 2003; 80: 1488—94.
16. Cetin A., Serenat E., Serenat E., Yakup Y., Halime SS. A geant cystic leiomyoma mimicking an ovarian malignancy. Int J Surg Cases Reports, 2013; 4: 1010-12.
17. Shimada, K.; Ohashi, moi; Kasahara, I.; Watanabe, H.; Ohta, S.; Miyasaka, N.; Itoh, E.; Shibuya, H. Différenciation entre les léiomyomes utérins complètement hyalinisés et les léiomyomes ordinaires : imagerie par résonance magnétique dynamique (IRM) triphasée par rapport à l'IRM pondérée en diffusion avec de très petits facteurs B. J. Magn. Réson. Imagerie, 2004; 20: 97-104.
18. Aboubakari, A.-S., Adama-Hondegla, AB, Darre, T., N'timon, B., Ajavon, D. et Akpadza, K. Dégénérescence kystique de myomes utérins simulant un cancer de l'ovaire: Etude d'un cas au CHU de KARA, au nord du TOGO. Revue scientifique européenne, ESJ, 2015; 11(9).
19. Giraudet G, Lucot JP, Rubod C et al. Hors fertilité, place de la myomectomie en périménopause et après la ménopause. J Gynecol Obstet Biol Reprod, 2011; 40: 902- 17.
20. H. Ravina et al. Embolisation des fibromes utérins : résultats sur 454 cas / Gynécologie Obstétrique & Fertilité 31, 2003; 597–605.