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Red degeneration of leiomyoma in a non-pregnant women: An unusual presentation

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Abstract

Red degeneration is an uncommon type of uterine leiomyoma degeneration which is mostly seen in pregnant women. Its occurrence in non-pregnant females is a very rare event. It occurs when the fibroid outstrips its blood supply leading to progressive necrosis. Grossly it resembles leiomyosarcoma which is a malignant neoplasm. Here we discuss a 34 years old multiparous female who presented with a history of severe abdominal pain and examination showed severe pallor with fibroid uterus. After optimization she underwent total abdominal hysterectomy preserving both ovaries. Histopathological examination revealed leiomyoma with red degeneration.

Keywords: Fibroid, red degeneration, leiomyoma of uterus, benign tumour of uterus

Introduction

Fibroid or leiomyoma is the common benign uterine mesenchymal tumour. It's occurrence is more common in reproductive age group with a prevalence rate of 20-30%.^[1] Patients with fibroids can be asymptomatic or can present with abdominal pain, bleeding, infertility or a palpable mass. When enlarging fibroids outgrow their blood supply, degeneration occurs. Degenerations can be hyaline (60%), cystic degeneration (4%) red or carenous degeneration (3%) or sarcomatous degeneration (0.1-0.8%)^[2, 3].

Red degeneration of fibroid is the rare event and its occurrence is often seen in leiomyoma of the pregnant uterus. In nonpregnant women its occurrence is even more rare. Typically, patients present with acute abdomen features and non-specific symptoms of nausea, vomiting and fever. Cut surface of red degeneration of fibroid is red or salmon pink color simulating like that of raw beef appearance.

Typical fishy smell is due to fatty acids. Preoperative confirmation of red degeneration of fibroid is difficult but possible with magnetic resonance imaging (MRI). MRI showed hyperintense rim on T1- weighted imaging and hypointense on T2-weighted imaging.

Case

A 34 years old multiparous female was admitted with a history of menorrhagia and moderate to severe pain in the lower abdomen which was not associated with any urinary or gastro-intestinal symptoms. LMP of 4 days. Her menstrual cycles are regular but her complaint of excessive and prolonged duration of bleeding (8-10 days) for 3 months. She had normal deliveries.

On general examination, she had fever (99.7⁰F) with a pulse of 102/minute. She was severe pallor. Her blood pressure was 100/76 mmHg. On abdominal examination, a 16-weeks-sized, firm mass originating from the pelvis was felt. Consistency of mass was firm and was tender with smooth surface and had limited mobility. Per speculum examination revealed no abnormality. Per vaginal and per-rectal examination revealed mass to be continuous with the uterus. Clinical diagnosis of a large fibroid uterus with severe anemia was made.

Transabdominal ultrasonogram showed a large hetero-echoic mass of 15 x 10 cm, which was in continuity with uterus along with few cystic areas of necrosis or degeneration. Complete blood count (CBC) reported haemoglobin of 4.6g/dL and total counts of 18300/ μ l with 88% neutrophils.

Initially she was managed with 3 units of packed cell transfusion, intravenous injection ciprofloxacin 500mg 12 hourly and injection diclofenac sodium 75 mg 8 to 12 hourly basis. Once the patients improved clinically and her biochemical parameters improved, she underwent

total abdominal hysterectomy in view of large tumour size. Bilateral ovaries were preserved. Gross examination could not differentiate red degeneration from sarcomatoid degeneration but the histopathological examination reported red degeneration of fibroid (Figure 1 and 2). Post-operative course was smooth and uneventful.



Fig 1: Gross specimen showing 15 x 10 cm intramural fibroid.

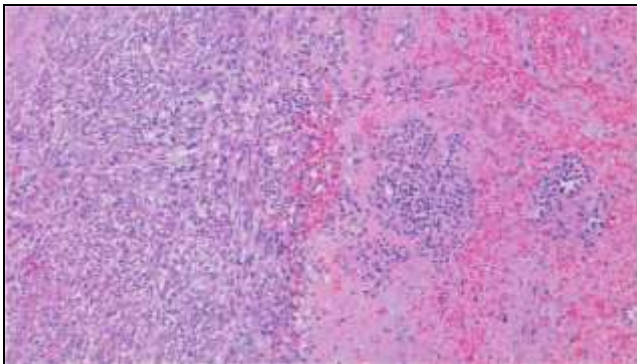


Fig 2: Histopathological slide depicting the area of red degeneration

Discussion

Red degeneration occurs in 3% of fibroid uterus cases which mostly occur in pregnant women and it is very rare in nonpregnant women [4]. Severe pain occurs in red degeneration because of its rapid growth which outgrow its blood supply causing hypoxia, necrosis and infarction. Pain can also be the result of release of prostaglandin following cellular damage within the fibroid [5]. Thus, prostaglandin synthase inhibitors have the potential role to counter the pain. Fever associated with red degeneration is also caused by prostaglandin release. Reddish discoloration occurs by diffusion of blood pigment hemoglobin and hemolyzed red blood cells from the thrombosed blood vessels. In our case the cut section of uterus showed a red intramural myoma within the uterine wall. It is difficult to differentiate this entity from sarcoma as latter are large size tumour and are soft, homogenous and look like raw pork. Diagnosis of red degeneration can be done preoperatively with MRI. T1-WI shows peripheral or diffuse high signal intensity which is mostly due to high proteinaceous content of blood or abundant intracellular methemoglobin [6]. T2-WI shows variable signal intensity with or without a low signal intensity rim. The negative predictive value and accuracy of MRI is 100% and 93% respectively [7]. We did not subject this patient to MRI as

degenerative or sarcomatoid changes were not suspected in this case.

Histopathological examination showed coagulative necrosis and $\leq 1/10$ High power field which distinguishes red degeneration from sarcomas.

Conclusion

Red degeneration in a fibroid in a non-pregnant female is a very rare entity which unlike gross examination can be clearly differentiated from leiomyosarcomas on histopathological examination. MRI can also differentiate both these entities preoperatively.

References

1. Novak ER. Myoma and other benign tumors of the uterus. Novak's Gynecologic and Obstetric Pathology with Clinical and Endocrine Relations 1979.
2. Ueda H, Togashi K, Konishi I, Kataoka ML, Koyama T, Fujiwara T *et al*. Unusual appearances of uterine leiomyomas: MR imaging findings and their histopathologic backgrounds. *Radiographics*. 1999;19(1):S131-45.
3. Kawakami S, Togashi K, Konishi I, Kimura I, Fukuoka M, Mori T *et al*. Red degeneration of uterine leiomyoma: MR appearance. *Journal of computer assisted tomography* 1994;18(6):925-8.
4. Rosai J. Female reproductive system. Uterus-corporis. Ackerman's surgical pathology. Rosai. J.
5. De Carolis S, Fatigante G, Ferrazzani S, Trivellini C, De Santis L, Mancuso S, Caruso A. Uterine myomectomy in pregnant women. *Fetal diagnosis and therapy*. 2001;16(2):116-9.
6. Aggarwal BK, Panwar S, Rajan S, Aggarwal A, Ahlawat K. Varied appearances & signal characteristics of leiomyomas on MR imaging. *Indian Journal of Radiology and Imaging*. 2005;15(2):271.
7. Goto A, Takeuchi S, Sugimura K, Maruo T. Usefulness of Gd-DTPA contrast-enhanced dynamic MRI and serum determination of LDH and its isozymes in the differential diagnosis of leiomyosarcoma from degenerated leiomyoma of the uterus. *International Journal of Gynecologic Cancer* 2002;12(4).