

Hydropic degeneration of uterine leiomyoma: A case report

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Introduction

Uterine leiomyomas are a common benign proliferation of uterine smooth muscle commonly seen in women of reproductive age. 1 in 4-5 women develop uterine leiomyomata. They can be symptomatic in 20-50% of patients depending on size location and complications associated with them.1 Symptoms include menorrhagia, dysmenorrhoea, infertility, pelvic pain and pressure. Complications of fibroids include degeneration, torsion or rupture and infection. One of the rarer forms of degeneration is hydropic degeneration where excessive fluid accumulates within the fibroid.2 It is characterised by prominent oedematous stroma which results in compartmentalisation of smooth muscle.

Case presentation

We present a case of a 39-year-old female who presented with severe right iliac fossa pain and sepsis. She was a Para 5, 3 previous normal deliveries and 1 caesarean section. She had a known 13cm posterior subserous fibroid. Inflammatory markers were raised; blood results on admission were as follows: Hb 132 (g/L), White cell count 10.6x 10⁹/L C-reactive protein 119 mg/L. Patient was started on empirical intravenous antibiotics.

Case presentation

A Computer tomography (CT) scan of the abdomen and pelvis was performed. The appendix could not be clearly identified. The large 11.2x10.3x13.2cm uterine fibroid has not changed in size compared to the previous ultrasound 1 year before. Degeneration or other significant change could not be evaluated.

Despite treatment with intravenous antibiotics, patient was not clinically improving, and inflammatory markers were increasing. A joint decision was made by the general surgical team and gynecology team for surgical intervention. Patient was taken to theatre for a diagnostic laparoscopy which was then converted to a laparotomy and total abdominal hysterectomy with conservation of ovaries. The diagnostic laparoscopy showed a normal appendix. Therefore, we proceeded with a laparotomy and hysterectomy. Post-operatively the patient recovered well, inflammatory markers improved, and she was discharged from hospital on post-operative day 5. Histology results have shown hydropic degeneration of the fibroid.



Figure 1: CT image of fibroid

Types of fibroid degeneration	Description
Hyaline	Focal or generalised hyalinisation: this is the most common type of degeneration (can occur in ~60% of cases)
Cystic degeneration	Usually occurs after menopause. Reduced blood supply to fibroids results in cystic areas developing within fibroid.
Myxoid degeneration	Similar to cystic generation but gelatinous material present in cystic masses.
Red (corneous) degeneration	Occurs during pregnancy usually as a result of haemorrhagic infarction
Hydropic degeneration	Fluid accumulation within fibroid

Figure 2: Table summarising types of fibroid degeneration

Discussion

Uterine leiomyomas frequently undergo degenerative changes. The most common type of degeneration is hyaline degeneration. 3 Hydropic degeneration is rare and can be difficult to diagnose. Clinically fibroid degeneration can mimic features of an acute surgical abdomen. Therefore, in patients with a history of large uterine fibroids, fibroid degeneration should be suspected.

In hydropic degeneration fluid accumulates within the fibroid. Generally, fibroids which undergo hydropic degeneration can grow rapidly therefore can result in a diagnostic dilemma. The atypical features on imaging can mimic leiomyosarcoma.

However characteristic findings on Magnetic Resonance Imaging (MRI) may aid with diagnosis including well circumscribed borders, haemorrhage and necrosis are usually absent, high T2 signal areas reflecting presence of oedema intermixed with solid cord like components.4 MRI is the preferred imaging modality as it can depict haemorrhage, necrosis or fluid with use of multiple sequences. However, CT imaging is likely to show hypodensity as demonstrated on figure 1 but may not reliably identify features of fibroid degeneration. 2 Given the presenting symptoms in our case, acute appendicitis was suspected, therefore CT imaging was performed.

Conclusion

- Hydropic degeneration is a rare condition and can be difficult to diagnose.
- In patients with known large uterine fibroids presenting with acute abdomen, fibroid degeneration should be suspected.
- MRI imaging is the preferred imaging modality for diagnosis of fibroid degeneration.

References

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