Hysteroscopic resection of a large intramural uterine fibroid following uterine artery embolization in a young pre-menopausal woman: A Case Report

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Introduction

The management of large symptomatic intramural fibroids in pre-menopausal women desiring fertility remains a management dilemma for gynaecologists. We present a case of a young woman with a very large anterior intramural fibroid who was treated with two separate uterine artery embolization procedures, followed by hysteroscopic resection of the necrotic fibroid.

Case summary

- 25 year old G1P1 female with heavy menstrual bleeding causing anaemia (Hb 50) due to a large anterior intramural fibroid (15x15x9cm, Figure 1)
- Wanting to avoid surgery, underwent Uterine Artery Embolization (UAE)
- Post-embolisation syndrome occurred 1 week post
- Representation with heavy bleeding and pain twice in the following 2 months
- Histopathology of tissue passed vaginally showed necrotic smooth muscle tissue – unclear if leiomyoma or myometrium
- In order to avoid difficult surgery, a 2nd UAE was performed 2 months after the first to infarct a portion of the leiomyoma that had revascularized at the base
- Sepsis developed 3 days post 2nd UAE, necessitating myomectomy
- As the fibroid was being expelled vaginally and there was MRI evidence that the fibroid had breached the cavity (Figure 2), decision was made to attempt transvaginal hysteroscopic resection under ultrasound guidance
- This procedure was successful with significant improvement
- Follow-up MRIs have shown a significant reduction in size and the patient has had 3 regular, lighter menstrual cycles (Figure 3 and 4)

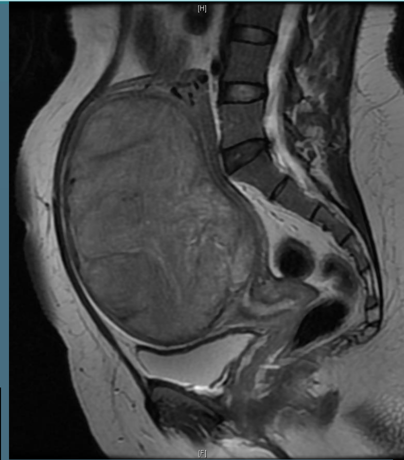

Figure 1: MRI Pelvis pre-UAE. Fibroid measures 15x9x9cm

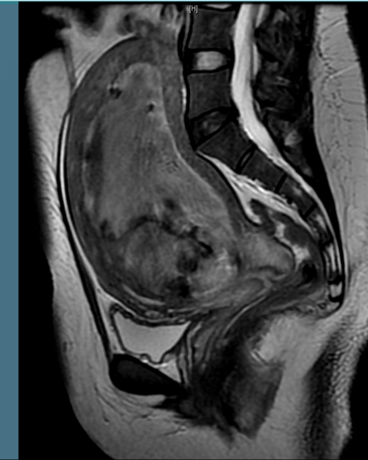

Figure 2: MRI Pelvis 2 months post-UAE. Fibroid now measures 14x8cm and majority has devascularised. Fibroid now communicates with endometrial cavity

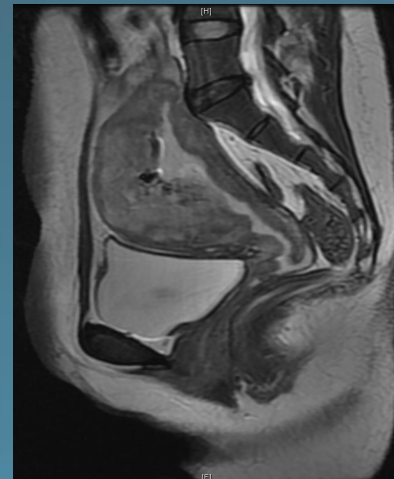

Figure 3: MRI Pelvis 5 days post hysteroscopic resection

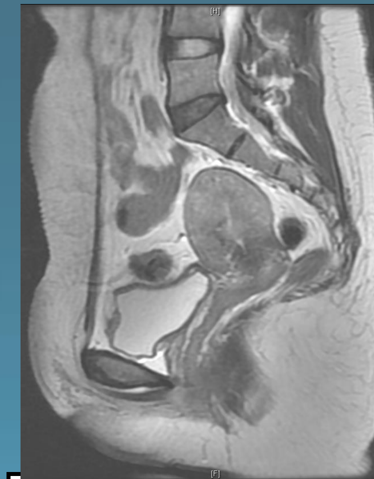

Figure 4: MRI Pelvis 4 months post hysteroscopic resection

Discussion

Repeat uterine artery embolization

- Repeat embolization in cases of unsuccessful symptom relief has been reported in the literature with good effect[1]
- Unfortunately our patient became unwell so we were unable to allow sufficient time to wait for effect of this

Fibroid expulsion

- While this fibroid was initially intramural, the process of necrosis caused expulsion vaginally
- Fibroid expulsion is a known but less common effect, occurring in 5-15% of UAE cases[2]
- The larger the size of an intramural fibroid and the closer the interface with the endometrium on MRI, the higher the risk of expulsion
- Can be managed conservatively, or via hysteroscopic resection, avoiding the need for a difficult laparotomy

Conclusion

This case demonstrates the combined treatment options of UAE and hysteroscopic resection of large intramural fibroids if they expel vaginally.

1. Bruce McLucas & Richard A. Reed (2009). Repeat uterine artery embolization following poor results, Minimally Invasive Therapy & Allied Technologies, 18:2, 82-86
2. Ochmanek, E., Brown, M.A., Rochon, P.J. (2019). Fibroid Expulsion after Uterine Artery Embolization, Seminars I nInterventional Radiology, 36, 126-132.