CASE REPORT

Transvaginal postpartum manual removal of a prolapsed submucous leiomyoma, initially diagnosed hybrid predominantly intramural

Wael Elgonaid,¹ Reem Belkhir,² Vincent Boama¹

¹Department of Obstetrics & Gynaecology, Sidra Medical & Research Centre, Doha, Qatar
²Department of Obstetrics & Gynaecology, Hamad Medical Corporation, Doha, Qatar

Correspondence to
 Dr Wael Elgonaid,
 elgonaid@hotmail.com

Accepted 26 June 2017

SUMMARY

We present a rare case of a large infarcted submucous fibroid removed manually after a normal vaginal delivery. This patient was known to have a large postero-fundal hybrid predominantly intramural uterine fibroid, measuring 11 x 10 cm in diameter and diagnosed 2 years prior to last conception. Thirty-five days postpartum, she presented with severe lower abdominal pain and foul smell per vaginam. Abdominal examination revealed a very tender bulky uterus at 24 weeks size, and vaginal examination revealed a big fleshy smelly mass with friable surface just bulging from a dilated cervix. Examination under anaesthesia revealed a very foul smelly large pedunculated submucous fibroid that was felt through a dilated cervix. It was deliverable vaginally, so the submucous leiomyoma was removed manually, a procedure similar to manual removal of placenta. Histopathology examination confirmed an infarcted massive fibroid.

BACKGROUND

Uterine fibroids are the most common benign pelvic tumours in the general female population and are found in 1%–12% of pregnancies,^{1,2} even though this prevalence in pregnancy is likely to be underestimated due to the imaging challenges in differentiating fibroids from physiological myometrium thickening. Common complications of uterine fibroids in pregnancy are pain, threatened and spontaneous abortion, fibroid degeneration, preterm labour, premature rupture of membranes, obstructed labour and postpartum haemorrhage.^{3,4} Serious complications of fibroid such as postnatal pyomyoma are fortunately rare but can be a real diagnostic challenge and are managed with antibiotics and usually end up with a total abdominal hysterectomy.⁵

Leiomyomas are usually classified into intramural, submucosal or subserosal types. The pedunculated submucous myomas may protrude through the cervix into the vagina and at times may become necrotic because of the lack of maintenance of adequate blood supply through a long pedicle. From a management point of view, this subgroup of prolapsed pedunculated submucous myomas should be viewed quite differently from the other types of uterine fibroids because of the diagnostic and management challenges they present.⁶ There are very few case reports, related to the management

of prolapsed pedunculated submucous myomas that have been reported in the literature. Some of these case reports describe a spontaneous expulsion of intramural and submucous fibroids at different stages in the postpartum period.^{7,8} In one occasion, the case ended up with a vaginal hysterectomy since the patient also had chronic recurrent uterine inversion.⁹

The issue of fibroids changing position from an intramural or subserosal type to a submucosal type was noted in one published case report but attributed to a likely incorrect reporting during ultrasound.⁵

There is also one case report of an intramural leiomyoma during pregnancy that changed to a pedunculated myoma 265 days after caesarean section. This was managed by myomectomy via laparotomy.⁸

We present, therefore, the first reported case of postpartum large prolapsed submucous myoma that was originally a known hybrid predominantly intramural myoma, removed manually under general anaesthesia 35 days after a normal vaginal delivery. The fibroid that was documented and confirmed throughout the course of pregnancy and even immediate postpartum period, to be intramural can migrate to be submucous. Even though we cannot explain the mechanism behind the change in position of the fibroid, it is not due to error in ultrasound reporting as evidenced by the attached ultrasound images [figures 1–3](#) and also by an immediate postpartum pelvic ultrasound and bimanual exploration that revealed an empty cavity of the uterus. We also think this case has educational value to obstetricians and gynaecologists since it indicates the first of such a case that is managed by manual removal with minimal morbidity.

CASE PRESENTATION

A 35-year old para 4 patient had a spontaneous vaginal delivery at full term of a live baby girl. She received carboprost (Pabal 100 µg) as a prophylactic measure against postpartum haemorrhage. Two hours later, she developed primary postpartum haemorrhage while in recovery room with calculated blood loss of 930 mL. Resuscitative measures started in the form of intravenous fluids (500 mL Ringer lactate +40 u oxytocin), urgent full blood count and group and save, and then transferred to delivery room. A bedside

CrossMark

To cite: Elgonaid W, Belkhir R, Boama V. *BMJ Case Rep* Published Online First: [please include Day Month Year]. doi:10.1136/bcr-2016-218712

Figure 1 (A) Red arrows pointing to postero-fundal hybrid fibroid predominantly intramural at 15 weeks. Note placenta is anterior away from fibroid site. Green arrow pointing to uterine wall between fibroid and gestational sac; (B) red arrows pointing to postero-fundal hybrid fibroid predominantly intramural at 23 weeks. Fetal head to right side of image and green arrow pointing to uterine wall; (C) red arrows pointing to postero-fundal hybrid fibroid predominantly intramural at 23 weeks: on the right with anteroposterior and transverse dimensions and on the left with Doppler. Yellow arrow pointing to part of fetal head, and green arrow pointing to uterine wall. (D) Red arrows pointing to postero-fundal hybrid fibroid predominantly intramural at 36 weeks with anteroposterior and transverse dimensions. Green arrow pointing to uterine wall. Fetal parts are not shown in this image.

ultrasound was performed by the senior consultant who has many years of scanning experience and revealed an empty endometrial cavity. An examination under anaesthesia (EUA) was performed under topped up epidural and revealed fundal height equalling to 26 weeks, uterus was not palpable separately from the fibroid and a bimanual examination revealed an empty cavity of uterus and excluded vaginal trauma and/or cervical tears. More uterotonics were given in the form of carboprost and 1000 mcg misoprostol rectally. She responded well and bleeding eased off completely. The lady was discharged home in good condition on the second day after delivery with haemoglobin of 9.8 g/dL.

On the 35th day after delivery, the lady presented to emergency department with severe lower abdominal pain and foul smell per vaginum together with feeling of very heavy sensation in the lower abdomen, like giving birth again. There was no associated vaginal bleeding, nausea or vomiting.

She was diagnosed with big fundal posterior wall fibroid, 11 x 10 cm for 2 years prior to conceiving her last child. This fibroid was demonstrated throughout the course of pregnancy as a hybrid predominantly intramural large fundal fibroid (figure 1A) at 15 weeks, (figure 1B,C) at 22 weeks and (figure 1D) at 36 weeks.

HISTORY OF PRESENT ILLNESS

The patient presented twice to emergency room 'ER' on the 6th and the 34th postpartum days with lower abdominal pain. The only positive finding in both occasions was a tender bulky uterus. So, in both occasions were treated as a red degeneration, she responded well to simple pain killers and with a normal complete blood count she was discharged home from ER in good condition on antibiotics for 7 days. Cultures showed negative results. Then, she presented again on the 35th postpartum day with severe lower abdominal pain and foul smelly vaginal secretions.

Figure 2 At 35 days postpartum, longitudinal section in the uterus. Red arrows pointing to posterior wall intramural fibroid pushing the endometrial cavity, green arrows, anteriorly.

PHYSICAL EXAMINATION

The patient demonstrated tachycardia at 92 beats per minute, and mild hypertension at 150/95 mm Hg. She was afebrile. Abdominal examination revealed a very tender bulky uterus at 24 weeks size. Vaginal examination which was very uncomfortable to the patient revealed an offensive smelly large fleshy mass with friable surface just bulging from a dilated cervix but not protruding into vagina.

INVESTIGATIONS

Full Blood Count was performed and was within normal limits. C reactive protein was high at 263. A high vaginal swab, blood and urine cultures were taken. A differential diagnosis of prolapsed infarcted fibroid or chronic inversion of uterus was made. Ultrasonography showed a bulky uterus with large posterior wall fibroid pushing the endometrium anteriorly (figure 2).

MANAGEMENT

The decision was made to go for EUA with a view to assess, establish diagnosis, correct inversion if present or remove fibroid if possible. The patient was counselled and an informed consent covered all possible risks including an emergency hysterectomy.

THE PROCEDURE

Exploratory examination anaesthesia revealed a foul smelly large submucous fibroid that is filling the whole distended uterine cavity and attached at the fundus bulging through a 4 cm dilated

Figure 4 At 7-month follow-up, longitudinal section of a transvaginal scan of a normal looking uterus with the Mirena intrauterine system, green arrow, in place. Cursors measuring endometrial thickness at 7.56 mm.

cervix, but not protruding into vagina. There was no fresh bleeding. The uterus was distended up to 24 weeks size and the fibroid was attached at the fundus with a relatively short, but broad band of fibrous tissue. Manual removal of the prolapsed fibroid was performed successfully. The specimen was taken for histopathology and microbiology (figures 3A–C). The uterus was intact throughout the whole procedure with no associated bleeding. A size 26 French three-way indwelling catheter was left in utero to prevent intrauterine adhesions, which was later on replaced with a Mirena intrauterine system.

The patient was treated with thromboprophylactic heparin for 5 days. She was continued on intravenous ceftriaxone (2 g/day) for 48 hours followed by oral cefixime (400 mg/day) and metronidazole (1500 mg/day) for 1 week duration. She made a good recovery and was discharged home after 5 days. At 2, 5 and 7-month follow-up visits, the patient remained stable and symptom free. On October 2016, a transvaginal ultrasound revealed a normal looking uterus with the Mirena intrauterine system in place (figure 4).

Findings are consistent with mostly infarcted leiomyoma measuring 18.0 x 16.0 x 8.0 cm with a weight of 650.0 g.

DISCUSSION

The clinical presentation of patients with a submucous myoma may vary depending on the size, if or not related to pregnancy and also if it is protruding through a dilated cervix. In

Figure 3 (A) Fibroid after removal; (B) fibroid after removal in a kidney dish. Note the size compared with instruments next to it; (C) fibroid after removal held by surgeon.

pregnancy, the symptoms include threatened miscarriage, threatened preterm labour, abnormal placentation, fetal malpresentation, fetal growth restriction, pelvic pain, antepartum and postpartum haemorrhage.³ Our patient had primary postpartum haemorrhage and later presented with lower abdominal pain as her main symptom.

The change of anatomy of a myoma in pregnancy from an intramural type to a different type is reported only in two case reports. The first one reports a case of an intramural myoma in pregnancy changing to a submucosal type which the authors attribute to a likely error in sonographic reporting.⁷ The second case reports an intramural myoma changing into a pedunculated subserosal type on a small stalk.¹⁰ Another case report that describes a change of anatomical site of a myoma during pregnancy describes a subserosal myoma noted during the first trimester but changed to a parasitic omental myoma 7 months postpartum.¹¹ Our case indicates a large intramural myoma during pregnancy and immediate postpartum but clearly changed anatomic site to a submucosal type 35 days postpartum. We are not able to explain how this myoma anatomic change took place similar to the other published case reports.^{10 11}

There are no clinical guidelines on the management of prolapsed pedunculated submucous myoma in pregnancy or during the postpartum period because they are rare and there is lack of sufficient published data on the subject. Outside of pregnancy, vaginal removal is recommended as the surgical treatment of choice since Golan *et al* showed in a retrospective observational study that vaginal myomectomy under general anaesthesia for prolapsed pedunculated submucous myoma was successful in 95.6% of 46 cases with minimal morbidity over a 10-year period. The reason for failure of attempt at vaginal myomectomy in their case series was because of the difficulty by the surgeon to reach the pedicle.¹² We do believe that this recommendation is also applicable to most cases in pregnancy as it is applicable in the postpartum period.

The management of prolapsed submucous myoma during pregnancy and after delivery has been reported in very few case reports with most of them ending in a hysterectomy.⁹ There is one case report of a prolapsed pedunculated submucous myoma which was removed successfully vaginally with no surgical complications at 26 weeks of gestation when the patient presented with preterm labour.¹³

In some rare cases when a patient presents with fever and tachycardia, it is important to differentiate retained products of conception from sloughed necrotic submucous myoma by clinical examination and using the relevant imaging modalities and histology.¹⁴

In our case, EUA was the best way forward to assess, establish diagnosis and treat. Manual removal of this large prolapsed submucous myoma initially diagnosed as a hybrid predominantly intramural type in pregnancy, with long-term follow-up indicating minimal complications, is the first of such a case report. This intramural relocation into a pedunculated submucous location after parturition has not been reported before.

The learning point here is that intramural fibroid, as much as it can relocate to become a pedunculated subserous one, can also relocate to become a submucous type and can be delivered manually with minimal complications even though the mechanism

underlying the relocation of fibroids from one type to another is currently unexplained. The other learning point here is that it took place relatively remote (35 days postpartum) from delivery, which might have allowed this migration of the fibroid into the submucous location. With an element of infarction, it helped prevent bleeding and removal was relatively easy. We would recommend to other clinicians to explore vaginal removal after all the relevant preoperative investigations including the available imaging modalities of prolapsed submucous myoma encountered during and after pregnancy.

Learning points

- ▶ Intramural fibroid can change into submucous fibroid and can create a challenge in diagnosis.
- ▶ Examination under anaesthesia for such presentation is a good option.
- ▶ Manual removal under anaesthesia is a feasible surgical intervention in certain cases and not necessarily associated with morbidity.

Contributors WE and RB were responsible for the clinical management of this patient throughout from admission to the emergency department until the most recent follow-up visit. WE, VB and RB all contributed equally to the acquisition of data, writing of the manuscript and review of the literature and finalising of the manuscript.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

© BMJ Publishing Group Ltd (unless otherwise stated in the text of the article) 2017. All rights reserved. No commercial use is permitted unless otherwise expressly granted.

REFERENCES

- 1 Bulun SE. Uterine fibroids. *N Engl J Med* 2013;369:1344–55.
- 2 Parazzini F, Tozzi L, Bianchi S. Pregnancy outcome and uterine fibroids. *Best Pract Res Clin Obstet Gynaecol* 2016;34:74–84.
- 3 Coronado GD, Marshall LM, Schwartz SM. Complications in pregnancy, labor, and delivery with uterine leiomyomas: a population-based study. *Obstet Gynecol* 2000;95:764–9.
- 4 Ezzedine D, Norwitz ER. Are women with uterine fibroids at increased risk for adverse Pregnancy outcome? *Clin Obstet Gynecol* 2016;59:119–27.
- 5 Sirha R, Miskin A, Abdelmagied A. Postnatal pyomyoma: a diagnostic dilemma. *BMJ Case Rep* 2013;2013:bcr2013201137.
- 6 Goldrath MH. Vaginal removal of the pedunculated submucous myoma. Historical observations and development of a new procedure. *J Reprod Med* 1990;35:921–4.
- 7 Sagoo B, Ng KY, Ghaleb G, *et al*. Spontaneous expulsion of intramural fibroid six weeks after emergency Caesarean Section. *Case Rep Obstet Gynecol* 2015;2015:1–4.
- 8 Thorpe-Beeston JG, Sebire NJ. Spontaneous expulsion of submucous fibroid after preterm labour. *BJOG* 2002;109:726–7.
- 9 Pieh-Holder KL, Bell H, Hall T, *et al*. Postpartum prolapsed leiomyoma with uterine inversion managed by vaginal hysterectomy. *Case Rep Obstet Gynecol* 2014;2014:1–4.
- 10 Haskins RD, Haskins CJ, Gilmore R, *et al*. Intramural leiomyoma during pregnancy becoming pedunculated postpartally. A case report. *J Reprod Med* 2001;46:253–5.
- 11 Iida M, Ishikawa H, Shozu M. Spontaneous parasitic leiomyoma in a post-partum woman. *J Obstet Gynaecol Res* 2016;42:1874–7.
- 12 Golan A, Zachalka N, Lurie S, *et al*. Vaginal removal of prolapsed pedunculated submucous myoma: a short, simple, and definitive procedure with minimal morbidity. *Arch Gynecol Obstet* 2005;271:11–13.
- 13 Demirci F, Somunkiran A, Safak AA, *et al*. Vaginal removal of prolapsed pedunculated submucosal myoma during pregnancy. *Adv Ther* 2007;24:903–6.
- 14 Zaima A, Ash A. Fibroid in pregnancy: characteristics, complications, and management. *Postgrad Med J* 2011;87:819–28.

Copyright 2017 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow