

Posterior Uterine Rupture in an Unscarred Uterus secondary to Undiagnosed Endometriosis

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Background

Uterine rupture is a rare but potentially life-threatening acute condition, usually occurring during labour, in which there is a non-surgical disruption of the myometrium with or without involvement of the serosa of the uterus.

The overall incidence is 0.07%¹ of all pregnancies. The incidence is lower in an unscarred uterus, at 0.012%¹, and higher with previous surgery involving the myometrium, uterine trauma or congenital uterine anomalies.

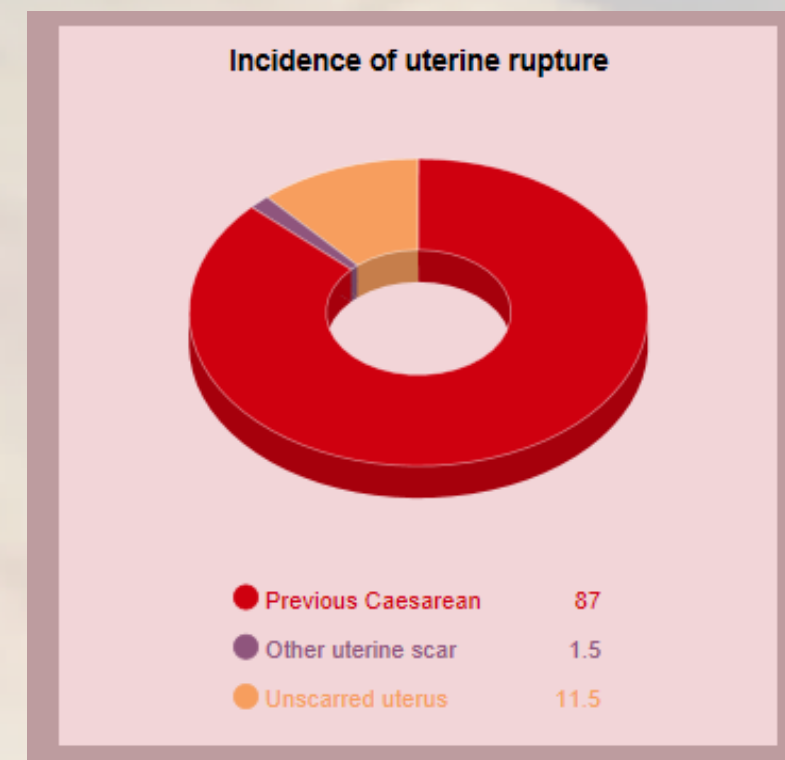


Fig.1 Incidence of uterine rupture ²

Atypical rupture away from a previous scar is extremely rare but lateral damage can occur in obstructed labour with the left more commonly affected than the right (23.5% compared to 8.8%)¹.

In an unscarred uterus predisposing factors also include

- grand multiparity
- cephalopelvic disproportion
- malpresentation
- uterine hyperstimulation
- iatrogenic trauma
- uteroplacental pathology such as adenomyosis or endometriosis

Immediate management involves systematic resuscitation according to maternal collapse protocol with emphasis on correction of hypovolaemia, broad spectrum antibiotics and urgent laparotomy once the patient is stabilised. Surgical options of uterine repair or hysterectomy are determined by the type and extent of rupture, degree of haemorrhage, general condition and future childbearing wishes. Reduced time between diagnosis and treatment improves outcomes. 25-44%¹ will have bleeding significant enough to warrant blood transfusion.

Perinatal mortality is 5-10%¹ in developed settings and depends on whether the diagnosis is established before or after delivery. Potential sequelae include infection, major obstetric haemorrhage, disseminated intravascular coagulopathy, ureteric injury, fistulae and Sheehan syndrome.

Clinical Case Summary

Our patient was a 30 year old G1P0 who was booked for consultant led care due to a history of epilepsy and bipolar affective disorder. She had no significant gynaecological history but had taken the combined oral contraceptive pill for dysmenorrhea from menarche to the time of planning her pregnancy. She had an uncomplicated antenatal period.

She attended at term with a history of spontaneous rupture of membranes and was subsequently transferred to the labour ward for augmentation of labour. After a period of 10 hours on syntocinon a decision was made for delivery by Caesarean section for suboptimal progress at 5cm dilatation. An uncomplicated category 2 Caesarean section was performed with delivery of a live female infant in good condition weighing 3900g.

Serial observations following delivery showed a persistent tachycardia of 120-160bpm with hypotension of 80-94mmHg systolic despite fluid resuscitation. Increasing abdominal distension was noted and a multidisciplinary team decision was made for an emergency exploratory laparotomy. On entry into the abdominal cavity 2000ml of clots were evacuated. Inspection of the uterus revealed an 8cm partial rupture of the left posterior wall extending vertically to the rectosigmoid colon with an associated sigmoid serosal laceration. Endometriotic lesions were noted on the posterior uterus and scarring on the colon.

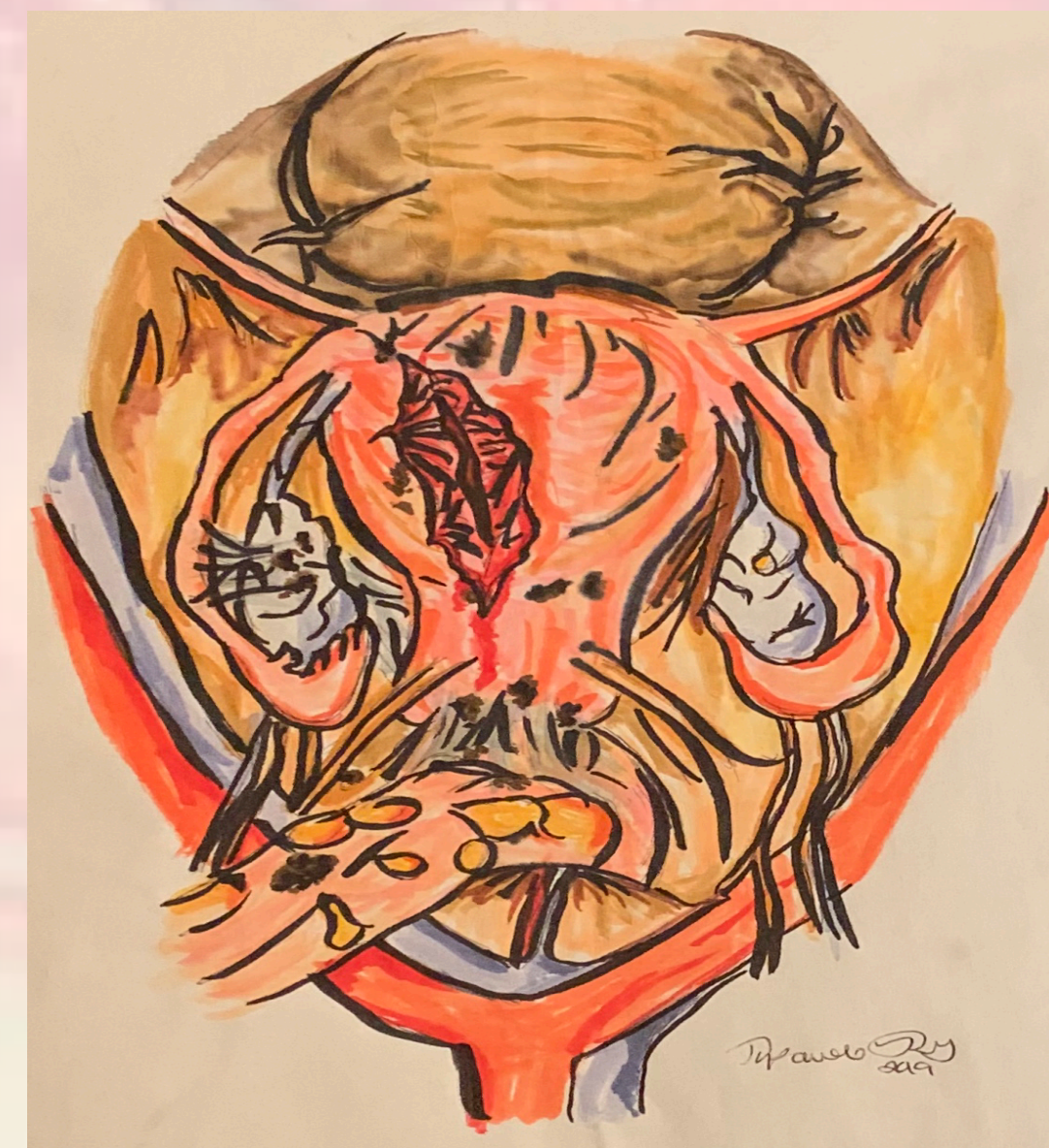


Fig. 2 Artistic depiction of posterior uterine rupture with associated adhesions and deposits of endometriosis

Uterine and sigmoid repair were performed. In total; 4 units of packed red cells, 2 units of fresh frozen plasma (FFP), 4g of fibrinogen, 2g of tranexamic acid were given. The pelvis was thoroughly lavaged and a Bakri balloon and abdominal drain inserted. The total measured blood loss was 3833ml. The patient spent 24hours in the High Dependency Unit and went on to make a good recovery with discharge home day 7 post-operatively.

Discussion

This case was particularly unusual as the patient did not have any of the classical signs associated with uterine rupture. Nor did she have any recognisable risk factors apart from augmentation of labour.

There is scant literature surrounding such cases but the few previous case reports available demonstrate that atypical rupture in an unscarred uterus should be considered in postnatal collapse. It is postulated that the presenting part can exhibit a tamponade effect in cases of posterior rupture meaning it is not immediately clinically apparent.

The effects of endometriosis pregnancy are neither widely researched nor reported although increased risk of complications is becoming more widely recognised

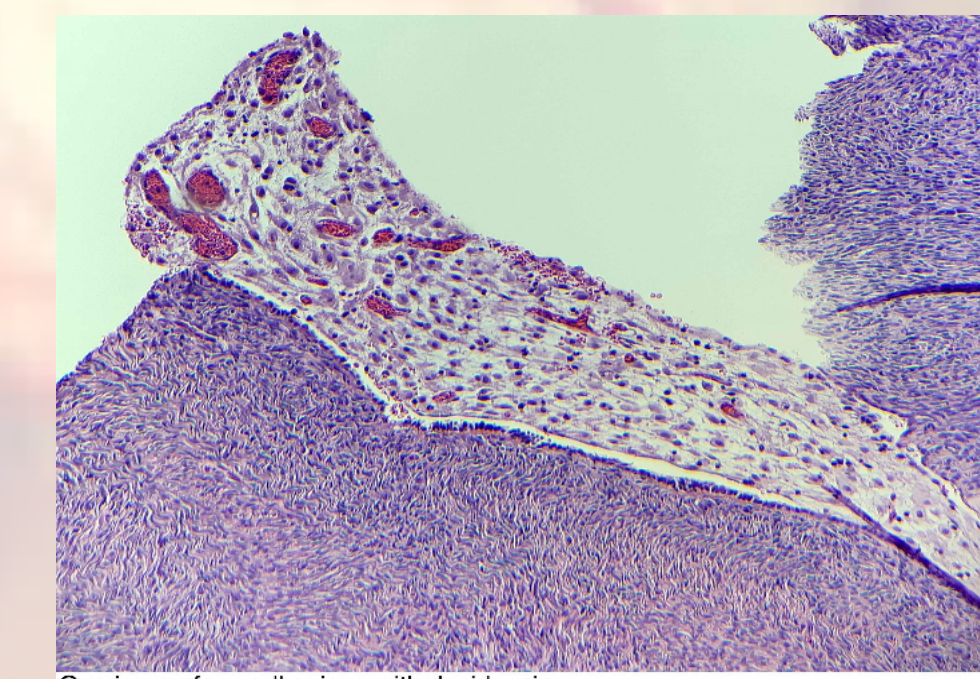


Fig. 4 Decidualised endometriosis⁴

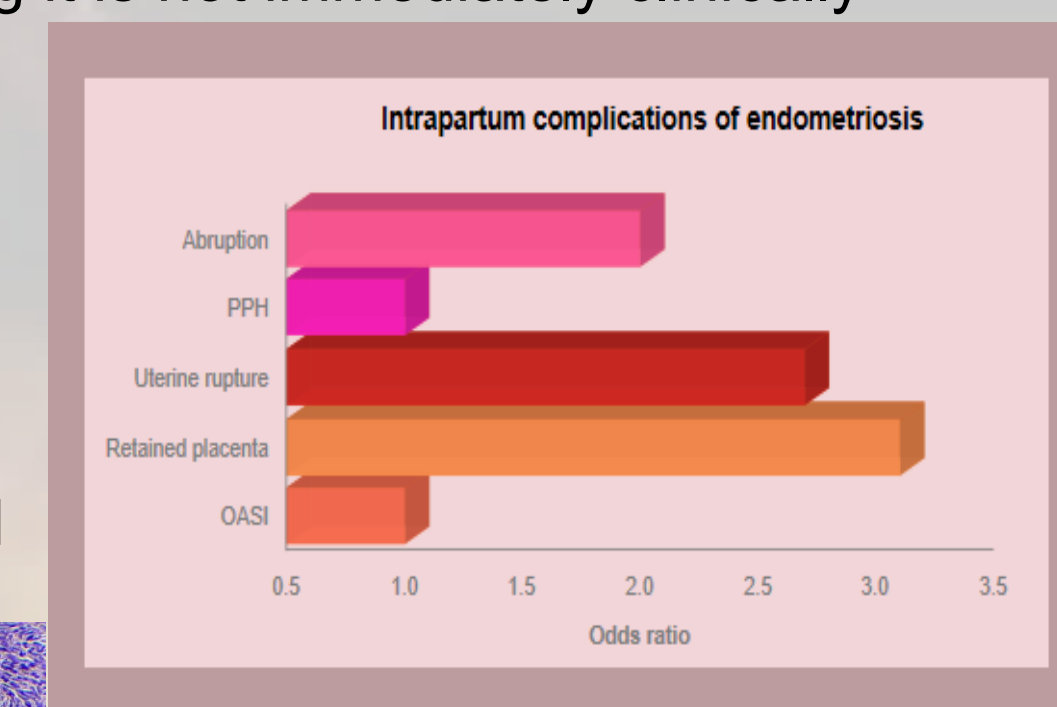


Fig.3 Complications of endometriosis³

Decidualisation of ectopic endometrial glands in response to high levels of serum progesterone causes tissue growth, with associated oedema, vascular remodelling and angiogenesis. Chronic

inflammation around these deposits causes tissue destruction and weakness and adhesions cause traction on surrounding structures. These processes are responsible for the increased risk of peripartum cyst rupture, intra-abdominal bleeding, spontaneous bowel perforation and uterine rupture.

Recommendations on management of endometriosis in pregnancy remain challenging as complications are so rare. As the incidence of successful conception with endometriosis is increasing case reports, such as this, help to reinforce the importance of maintaining a high index of suspicion to reduce morbidity and mortality.

References

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