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## Introduction

Caesarean section (CS) now represents 32% of women giving birth for the first time in Australia, with 6% occurring at full dilatation<sup>1</sup>. CS at full dilatation is a recognised risk factor for postpartum haemorrhage (PPH) due to the surgical complexity associated with deeply impacted foetal head and thinned lower segment. CS at full dilatation is associated with increased incidence of uterine angle extension, prolonged surgical time, bladder injury, pyrexia, PPH and emergency peripartum hysterectomy. In cases of severe PPH postpartum hysterectomy may be required, and has a reported incidence of 0.2 to 5 per 10,000 deliveries<sup>2</sup>. This is usually considered a final and life-saving procedure in the setting of massive uncontrolled obstetric haemorrhage.

## Case Report

A 26 year old G1P0 presented to the birthing suite in spontaneous labour at 40+6 gestation. Her pregnancy was normal risk with her main risk factor of BMI 34. In Her labour required augmentation following epidural. After one hour of pushing the head remained at station -1 with signs of obstruction and emergency CS was recommended. A foetal pillow was inserted prior to delivery. The caesarean was complicated by a deep right angle extension and an initial blood loss of 1.9L at time of caesarean section. Whilst initial haemostasis was achieved, further bleeding developed in recovery necessitating a return to theatre.

Upon return to theatre a Bakri balloon was inserted, however there was ongoing bleeding per vaginum so a laparotomy was performed. The surgical team proceeded to perform a brace suture and ligation of the uterine arteries, however bleeding continued, so this was extended to a ligation of internal iliac arteries. Unfortunately, haemostasis was not achieved and the decision was made to perform a peripartum hysterectomy. Total estimated blood loss amounted to 19L.

A enormous amount of blood products and uterotonics were utilised, including: 6.7L of packed red blood cells, 370ml cryoprecipitate, 5.4L of fresh frozen plasma, 8 grams of fibrinogen, 1L of albumin, 2g TXA, 1000mcg carboprost, ongoing syntocinon infusion (see figure 2).

The patient developed post partum pre-eclampsia, requiring labetalol infusion to stabilise. Fortunately, this patient did not develop known sequelae of massive haemorrhage, such as disseminated intravascular coagulopathy, ileus, ischaemic gut, infection, venous thromboembolism or Sheehan's syndrome.

The patient, their family, and staff were debrief on multiple occasions regarding events. The patient was discharged on day seven, and has since had multiple debriefing appointments in the out patient department. She remains well and grateful for the care she received.

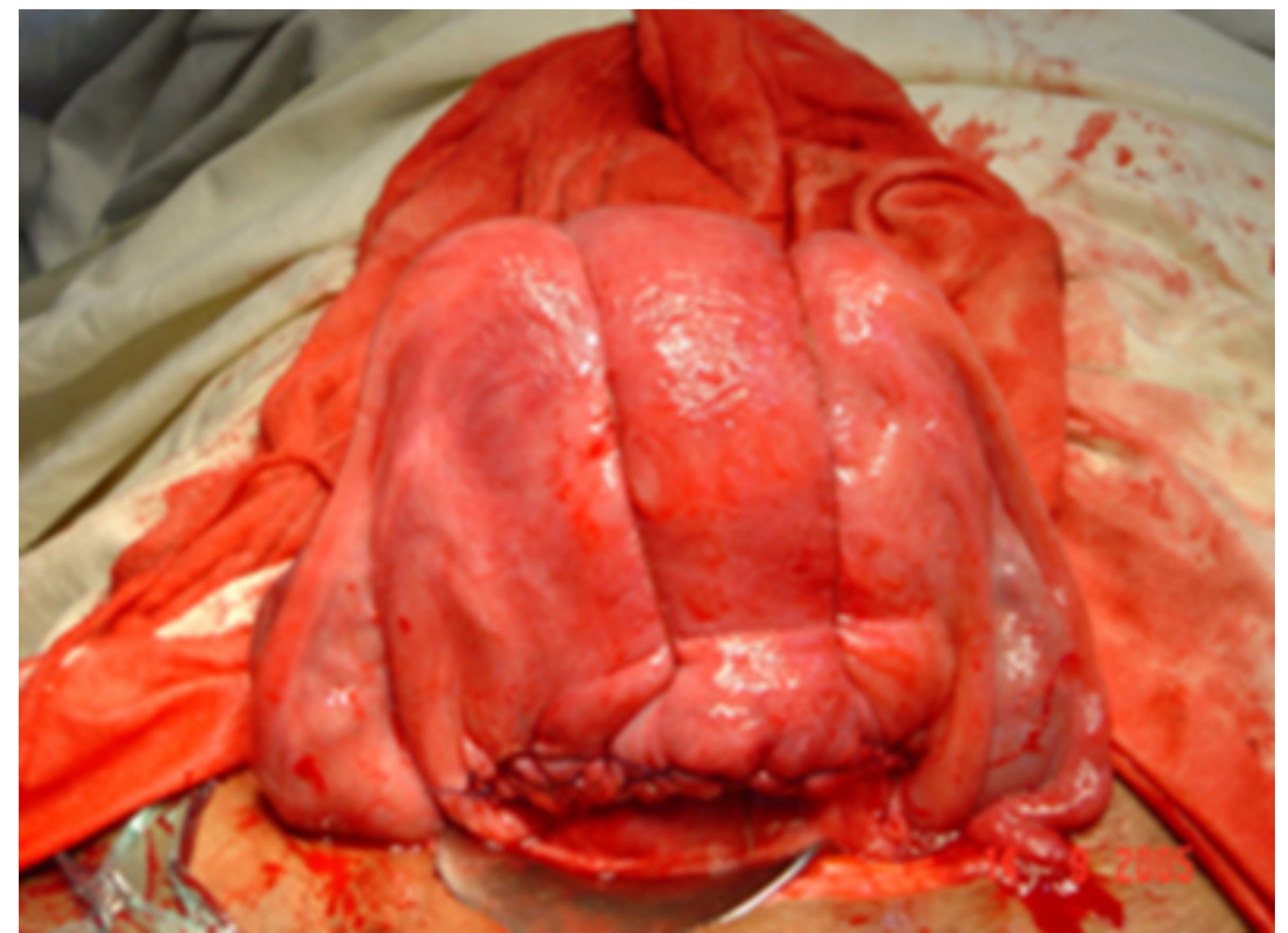


Figure 1. Atonic uterus prior to decision for emergency peripartum hysterectomy



Figure 2. Image of blood products used at the time of surgery

## Conclusion & discussion

- This patient's main identifiable risk factor of emergency peripartum hysterectomy was caesarean section in labour
- Decision to perform emergency peripartum hysterectomy should be made by senior clinician, ideally with consultation with second consultant
- Crucial to adopt a cohesive multi-disciplinary team approach, including communication with blood bank
- The patient's journey does not end with haemostasis
- Importance of debrief patient, family and staff

### References:

1. Australian Institute of Health and Welfare. (2022, September 28). *National Core Maternity Indicators: Caesarean section*. <https://www.aihw.gov.au/reports/mothers-babies/national-core-maternity-indicators-1/contents/labour-and-birth-indicators/caesarean-section>
2. Mackenzie-Proctor, R., Harilall, M. (2016). Emergency peripartum hysterectomy. *O&G Magazine*. 18 (4). <https://www.ogmagazine.org.au/18/4-18/emergency-peripartum-hysterectomy/>
3. Davis, G., Fleming, T., Ford, K., Mouawad, M. R., & Ludlow, J. (2015). Caesarean section at full cervical dilatation. *The Australian & New Zealand journal of obstetrics & gynaecology*, 55(6), 565–571. <https://doi.org/10.1111/ajo.12374>