

# EP14.15

## MANAGEMENT OF MID-TRIMESTER FETAL DEATH COMPLICATED BY COMPLETE PLACENTA PRAEVIA AND PRE-ECLAMPSIA.

KEREN JURAWAN

### Introduction

Major obstetric haemorrhage (MOH) is a leading cause of maternal morbidity and mortality. Identifying risk factors, planning, and prompt management are crucial. Placenta praevia (PP) is typically managed surgically, however vaginal delivery (VD) cases have been documented. Managing MOH was a significant concern, and uterine artery embolization (UAE) was shown to be effective.

Intrauterine fetal death (IUFD) after 20 weeks' gestation along with complete placenta previa (CPP) is rare. In this case, pre-eclampsia, which is rarely associated with PP, with an early onset presentation, additionally rare, raised additional risk towards MOH. This report details the successful management of IUFD in a pregnancy complicated by CPP and early-onset pre-eclampsia in whom VD was achieved after UAE.

### Case Report

A 30-year-old female, SB, P2+0, presented at 13+4 weeks' gestation with recurrent first trimester bleeding, nausea and vomiting in pregnancy (NVP) and class 1 obesity (BMI 32kgm<sup>2</sup>). She had a previous Caesarean Section. Given the risk for fetal growth restriction (FGR), low dose aspirin was initiated. Ms. SB re-presented at 19+2 weeks' with NVP refractory to oral antiemetics, severe right upper quadrant and epigastric pain. There was new onset hypertension and nephrotic range proteinuria (protein: creatinine ratio (PCR) 335.2 mg/mmol) and persistent transaminitis. An abdominal ultrasound demonstrated a non-obstructing gallstone in the gallbladder.

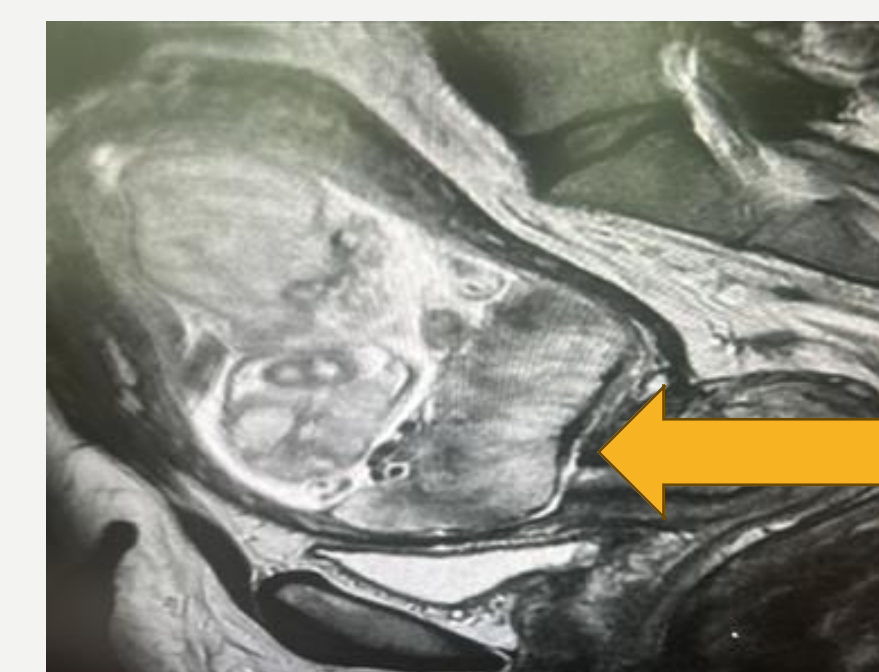
She was diagnosed with early onset pre-eclampsia and biliary colic. Multidisciplinary management ensued. The anomaly scan at 23+1 weeks' demonstrated FGR, anhydramnios, absent end diastolic flow of the umbilical artery, and pulmonary hypoplasia. CPP was noted. All further investigations, were within normal limits. Four days later, the umbilical artery flow became reversed. IUFD was diagnosed eleven days after. She was asymptomatic for labour, haemorrhage or impending eclampsia.

Magnetic Resonance Imaging (MRI) demonstrated a low-lying placenta reaching the posterior and the anterior walls, completely covering the cervical internal os in keeping with grade 4 placenta praevia. There was

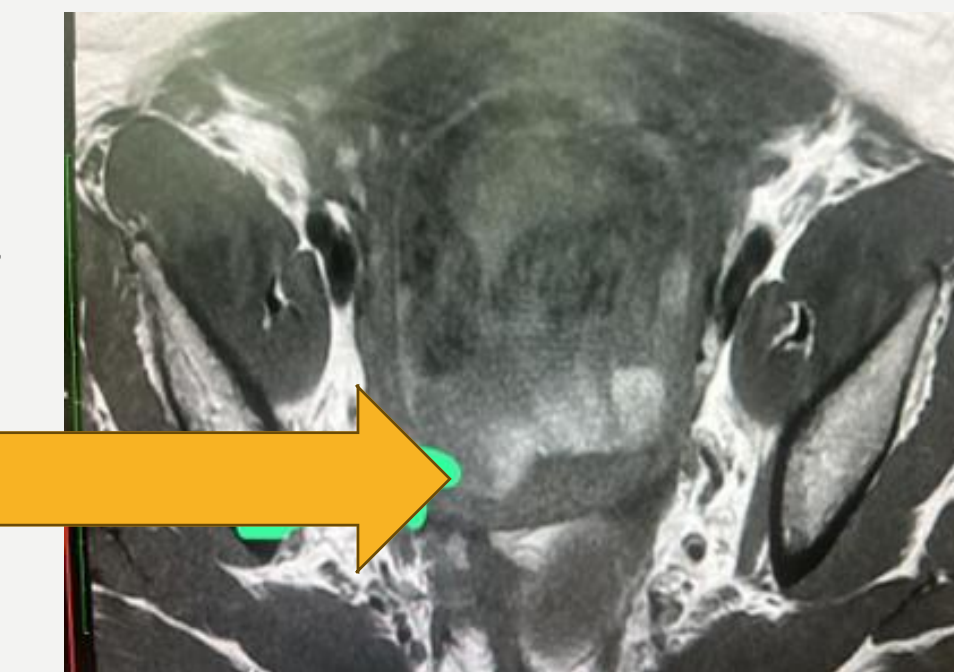
preserved fluid signal between the uterine cervix and the placenta. Along the deep portion of the placenta there was extensive haemorrhage measuring 2.2x 6.7x6.5cm (**Figure 1**) There was no haemorrhage between the placenta and the myometrium to suggest abruption. The placental myometrial interface was preserved with no focal myometrial bulging or placental bands. Evidence of previous uterine surgery with the mid segment of the anterior wall serosa tethered to the ventral abdominal wall. The placenta did not extend anteriorly to this level. Internal and external os closed.

After multi-disciplinary consultation, UAE followed by mechanical dilatation was decided to achieve VD. Catheters were inserted via the right transfemoral approach using the Seldinger technique. Selective embolisation was performed on the bilateral uterine arteries and a left ovarian artery anastomosis. Spontaneous labour occurred the day after, with delivery of fetus and placenta and an estimated blood loss of 25ml.

Ms. SB, had emergency antihypertensives during labour and polypharmacy for optimal postpartum control and was discharged on prophylactic thromboprophylaxis and antibiotics. Spot PCR improved to 272mg/mmol. The histology report showed an eccentrically inserted umbilical cord with three patent vessels and recent and remote infarcts in the placenta. An anatomically normal female foetus was noted.



**Figure 1: Haemorrhage within the deep portion of the placenta and altered blood.**



### Discussion

MOH has been consistently leading as a preventable direct cause of maternal mortality. PP, pre-eclampsia and IUFD are all known to be high risk factors for postpartum haemorrhage. These, combined with a history of Caesarean Section, heightened the risk.

PP occurs in 1 in 200 pregnancies. These cases are usually managed surgically. However, this was not an ideal option in this case due to the

IUFD, gestational age necessitating hysterotomy and likely vertical uterine scar. MRI scan also showed likely anterior adhesions potentially increasing the risk of MOH leading to hysterectomy, critical care admission, or worse death. Expectant management was not a feasible option in this case.

Good practice guidance recommends interventional radiology in the management of MOH in known or suspected cases of abnormal placentation with emphasis on its use as a prophylactic measure. Reduction in blood loss, blood transfusions and critical care stays were seen even when hysterectomy was performed.

UAE is minimally invasive with high success rates, low complication rates (< 10%) and generally good clinical outcomes allowing for rapid control of haemorrhage, avoidance of surgical complications leading to reduction hospital stays and preservation of fertility. Complications include an associated higher rate of placenta accreta spectrum (PAS) and MOH in subsequent pregnancies.

### Conclusion

Although future research is necessary, in patients with identified risk factors for MOH, where the facilities exist, UAE should be discussed as a viable option for prophylaxis and emergency management.

### References

- 1.Matsuzaki, S., Lee, M., Nagase, Y. *et al.* A systematic review and meta-analysis of obstetric and maternal outcomes after prior uterine artery embolization. *Sci Rep* **11**, 16914 (2021).
- 2.S. Kaku, S. Tsuji, T. Ono, F. Kimura, T. Murakami. Successful management of complete placenta previa after intrauterine fetal death in a second-trimester pregnancy by uterine artery embolization: case report and literature review. *Clin. Exp. Obstet. Gynecol.* 2017, 44(3), 458–460.
- 3.Davies, R., Parker, M., Basu, A. and Alleemudder, D. (2023), The clinical applications of interventional radiological techniques in obstetrics and gynaecology. *Obstet Gynecol*, 25: 131-139
- 4.Jauniaux ERM, Alfirevic Z, Bhide AG, Belfort MA, Burton GJ, Collins SL, Dornan S, Jurkovic D, Kayem G, Kingdom J, Silver R, Sentilhes L on behalf of the Royal College of Obstetricians and Gynaecologists. Placenta Praevia and Placenta Accreta: Diagnosis and Management. Green-top Guideline No. 27a. *BJOG* 2018