Use of vaginal cell salvage in an unusual case of abnormally invasive placenta

Dr A. Moore, Dr C. Laxton, Dr N. Weale

NHS North Bristol NHS Trust

Introduction

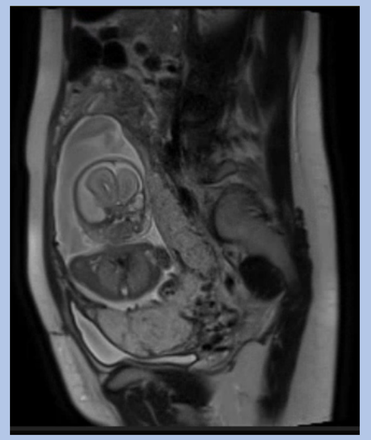
The use of intraoperative cell salvage in obstetric practice is well established. The reinfusion of vaginally salvaged blood remains controversial due to concerns regarding bacterial contamination. A study by Teare et al has found similar levels of bacterial contamination in vaginally salvaged blood compared to that salvaged at caesarean section [1]. Theoretically this blood should be safe to re-infuse.

We present an unusual case of AIP resulting in large volumes of vaginal blood loss.

Case Report

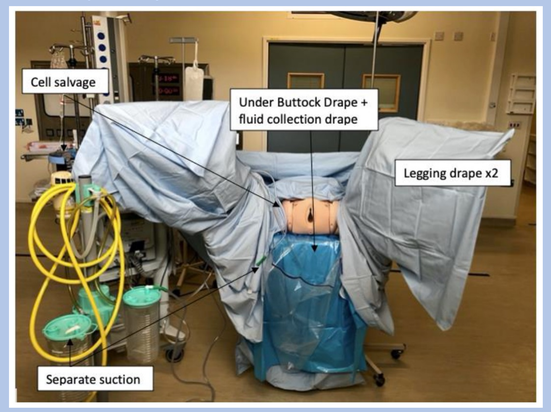
32 years old, Parity 5, 1 previous LSCS

- Presented to a DGH with several episodes of large volume (>1000mL) antepartum haemorrhage requiring blood transfusion.
- Ultrasound and MRI demonstrated an abnormally invasive placenta with invasion of the cervix. Vaginal examination revealed placental tissue visible at the level of the cervix.
- During the initial work up the patient had suffered a total of 4500mL blood loss requiring 7 units of packed red cells.
- She was transferred to our tertiary centre at 22+1 weeks with a plan for termination and hysterectomy.



Anaesthetic and Surgical Care

- Due to the potential for massive haemorrhage a large proportion of which was expected to be vaginal the patient was specifically consented the for the collection, processing and reinfusion of vaginal haemorrhage.
- We have a specific vaginal cell salvage protocol intended for use in Jehovah's Witness patients.
- For this case we used 2 separate cell salvage machines (one for vaginal and one for abdominal blood), the swabs used in the vagina were also washed and processed separately to the abdominal swabs.



- The case was conducted with combined spinal and general anaesthesia. A radial arterial line and 3 large bore peripheral IV cannulae were sited.
- 8 units of crossmatched blood were available.
- A hysterectomy was performed through a Pfannenstiel incision with the placenta and fetus in situ.
- Broad spectrum antibiotics were continued for 48h post surgery. The patient made a full recovery without any significant complication.
- Total blood loss was 7500mL, the majority of this was vaginal.

Cell Salvage (volume re-infused mL)	Other Blood Products (Units)
Vaginal = 1337	RBCs 5
Abdominal = 671	FFP 4
Total = 2008	Cryo 2
	Platelets 1

Discussion

- This case represents an example of the safe reinfusion of vaginally salvaged blood.
- This appears to be the first reported case where such a large volume of vaginally salvaged blood has been re-infused.
- This adds to the small but growing body of evidence that this is a viable option to reduce allogenic blood transfusion.
- Concerns remain regarding the risk of bacterial contamination, however there is a growing body of observational evidence that the levels of contamination are low post processing and that even frank contamination with stool may not have significant detrimental effects [2].
- A cohort study in the US has re-infused vaginally salvaged blood in 64 cases without any reported adverse events. The average vol returned was 384mL [3].
- Post partum haemorrhage is up to twice as common at vaginal delivery compared to caesarean section [4].
- The introduction of vaginal cell salvage in these cases has the potential to significantly reduce the need for allogenic blood transfusion with its associated and well defined risks and expense.

References

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4. Dupont C, Touzet S, Colin C, et al. Incidence and management of postpartum haemorrhage following the dissemination of guide- lines in a network of 16 maternity units in France. Int J Obstet Anesth 2009;18:320–7.