Bloody Essential - Reviving Cell Salvage

Cooper H, Crail C, Macafee B

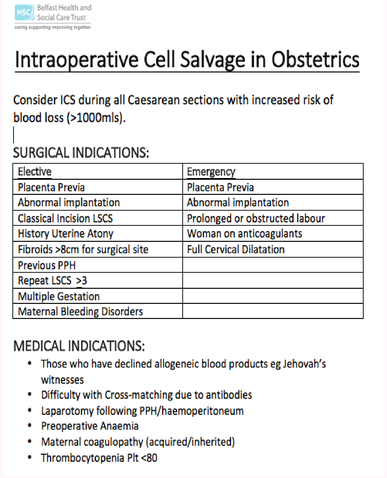
Belfast Health and Social Care Trust

Background

Intraoperative cell salvage (ICS) should always be available for all caesarean sections (emergency or elective), where blood transfusion is declined, anticipated loss is >20% blood volume or where anaemia may be induced.[1,2] Our unit has faced various difficulties meeting these standards, despite being a tertiary obstetric referral centre. Our quality improvement project was aimed at addressing these difficulties to optimise delivery of ICS.

Methods

Our initial strategy was to audit baseline ICS use in elective theatres over a ten-month period and document obstacles to use. A poster of ICS indications was displayed in key areas and was added to the theatre brief/checklist. Education sessions were held with midwifery, anaesthetic, and obstetric staff. ICS use was re-audited three months later post education campaign and elective data was presented locally. Emergency ICS use was audited in a similar fashion. The resultant data was presented at a multidisciplinary audit meeting. Several engagement meetings with midwifery management and the ICS Trust lead were held. Staff recruitment and ICS staff virtual training is currently in process.



Intraoperative Cell Salvage in Obstetrics

Consider ICS during all Caesarean sections with increased risk of blood loss (>1000mls).

SURGICAL INDICATIONS:

Elective	Emergency
Placenta Previa	Placenta Previa
Abnormal implantation	Abnormal implantation
Classical Incision LSCS	Prolonged or obstructed labour
History Uterine Atony	Woman on anticoagulants
Fibroids >8cm for surgical site	Full Cervical Dilatation
Previous PPH	
Repeat LSCS >3	
Multiple Gestation	
Maternal Bleeding Disorders	

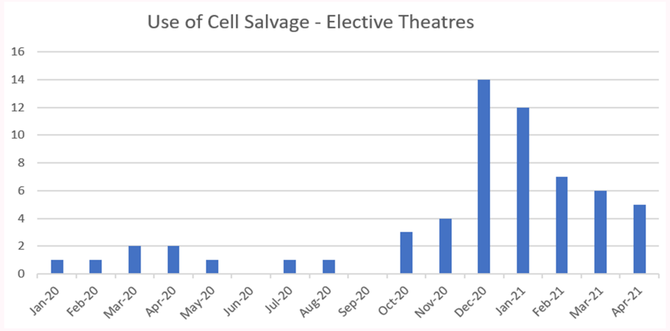
MEDICAL INDICATIONS:

- Those who have declined allogeneic blood products eg Jehovah's witnesses
- Difficulty with Cross-matching due to antibodies
- Laparotomy following PPH/haemoperitoneum
- Preoperative Anaemia
- Maternal coagulopathy (acquired/inherited)
- Thrombocytopenia Plt <80

'Indications for ICS' poster displayed in all key areas

Results

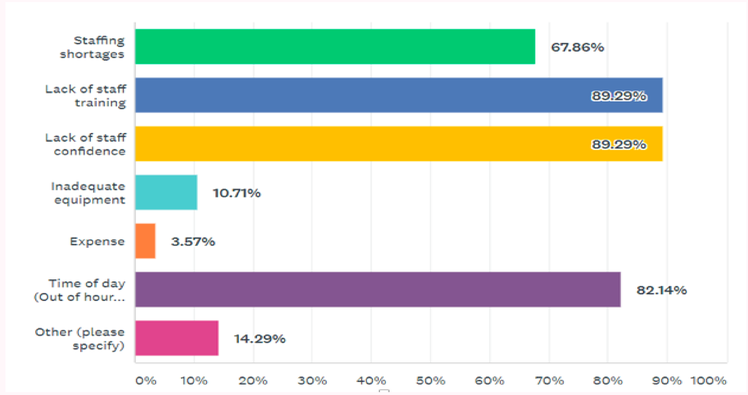
Baseline elective theatre ICS use ranged from 0-4 cases/month. Post education sessions, this increased to 12-14 cases/month. Of note, use noticeably declined (5-7 cases/month) over a three-month period, possibly due to the impact of the COVID-19 pandemic on obstetric services.



Baseline emergency theatre ICS use over a two-month period showed ICS was used in only 6% of cases where it was felt to be required. The two key obstacles to use were inadequate staffing and trained ICS staff.

A subsequent survey sent to anaesthetists across the trust confirmed that the main barriers to ICS use were inadequate staffing and trained ICS staff, as well as low confidence amongst staff. In addition to this, our survey highlighted that the time of day influenced the decision to ask for ICS, with anaesthetists being significantly less likely to request ICS out of hours.

Perceived barriers to using ICS in emergency obstetric theatre as reported by staff



Discussion

Improvement measures of checklist addition, poster campaign and staff education demonstrated increased ICS use in the elective setting. Despite this, inadequate staffing and lack of trained ICS staff continue to be obstacles to improving ICS use in the emergency setting. Potential solutions have been discussed at senior trust level and include out-of-hours staff dedicated to run ICS, amending future technician job descriptions and use of dedicated trainers and virtual workshops to educate staff. Despite the challenges described, we have made small gains in the elective setting. We continue to explore new ideas to address the issues and are fully committed to establishing a service where ICS is available when required.

References

1. Association of Anaesthetists of Great Britain and Ireland, Obstetric Anaesthetists' Association. OAA / AAGBI Guidelines for Obstetric Anaesthetic Services 2013. https://www.oaa-anaes.ac.uk/assets/_managed/editor/File/Guidelines/obstetric_anaesthetic_services_2013.pdf; 2013 Accessed 5 Jan 2022.
2. Royal College of Obstetricians and Gynaecologists. Blood Transfusion in Obstetrics. Green-top Guideline No. 47. https://www.rcog.org.uk/globalassets/documents/guidelines/gtg-47.pdf; 2015 Accessed 5 Jan 2022.