

An evaluation of patient blood management measures in maternity in an NHS Hospital Trust

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Introduction

The SALVO trial did not find a significant reduction in donor red cell transfusion rates and the Association of Anaesthetists guideline recommends that intra-operative cell salvage (ICS) is not set up routinely and is reserved for women who are anaemic or who have unanticipated ongoing bleeding at delivery. Since 2018 we have established a significant ICS service in our Trust. By comparing our data from 2018 and 2021 we wanted to evaluate if this, along with other patient blood management measures, has had any effect on our red cell transfusion rate.

Methods

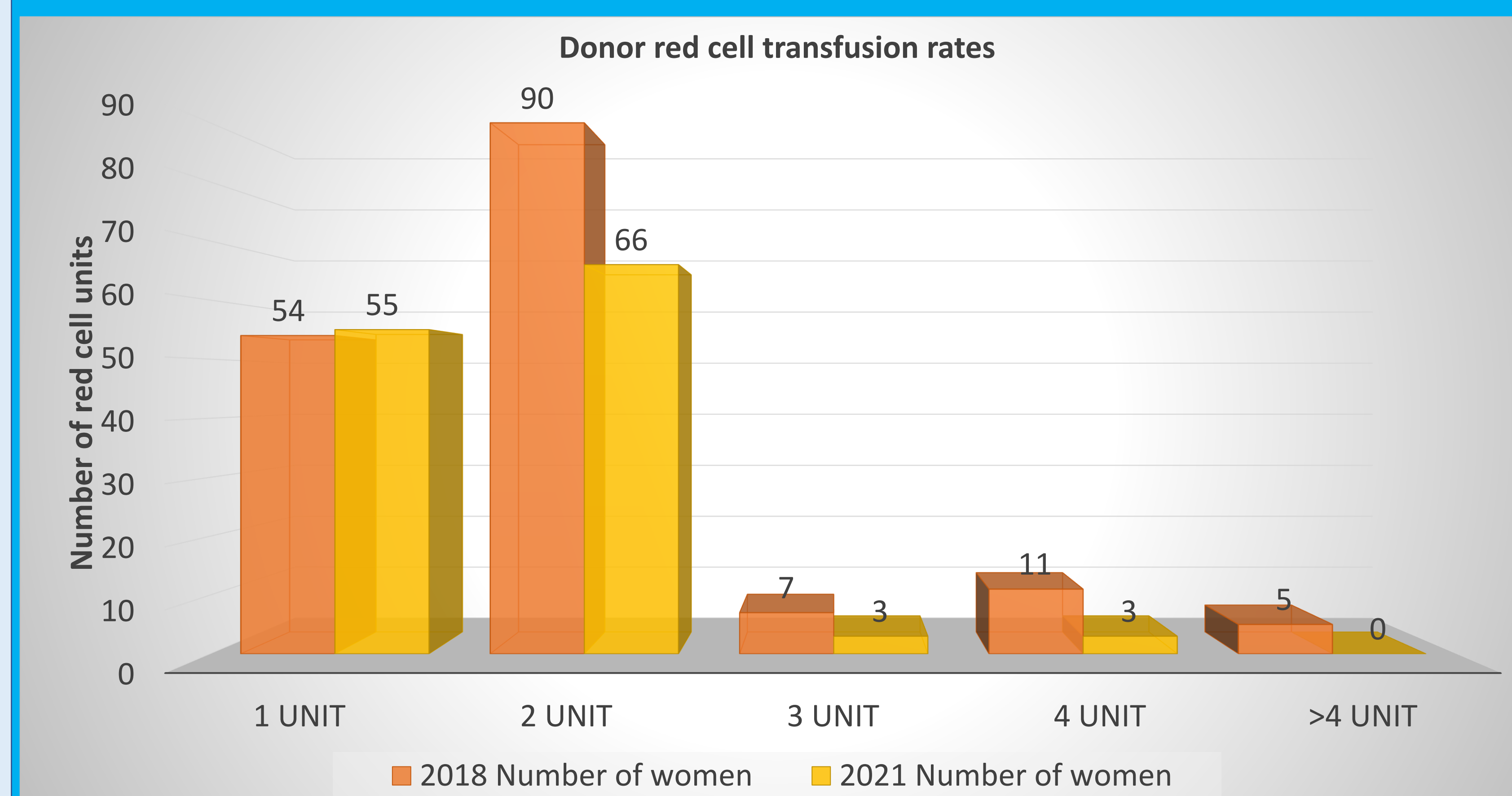
Donor red cell transfusion data and maternity delivery data for 2018 and 2021 was analysed. Data was collected each time ICS was used. We compared all three datasets with Microsoft Excel. Statistical analysis between transfusion and delivery data was carried out using Chi-squared tests.

Results: Cell salvage

- ICS was collected in 1469 women, this was 88% of the ICS we used in the trust that year
- 30% had salvaged blood re-infused, 436 women
- 141 litres of salvaged blood was re-infused, ranging from 69-1999mls. A mean of 96mls per woman
- We used ICS in 68% of elective caesarean section (CS) and 100% of category 1+2
- The indications for use in elective CS that had a high rate of re-infusion were: low lying placenta, high BMI, multiple pregnancy, large EFW, polyhydramnios.
- 30 women who did not have ICS set up at CS lost more than 1500mls.

Results: Transfusion and demographics

	All births		Caesarean birth		Forceps birth	
Year	2018	2021	2018	2021	2018	2021
Number of births	6142	5877	1622	1800	501	565
Women with blood loss >1000 mls (%)	9	11	14	16	26	27
Number of red cell transfusions	326	210	94	64	84	52
Red cell transfusions per delivery (%)	5.3	3.6	5.8	3.5	16.7	9.2
Chi squared for independence	21.2	p<0.001	9.72	p=0.002	13.7	p<0.001
No. of women receiving donor blood	167	130	49	43	46	33
Women receiving donor blood (%)	2.7	2.2	3.0	2.4	9.2	5.8
Chi-squared for independence	3.2	p=0.07	1.3	p=0.25	4.32	p=0.04



Discussion

- Our data has shown a significant reduction in donor red cell transfusion despite increased rates of haemorrhage.
- Our use of ICS is likely to be helping to reduce our red cell transfusion rates.
- There are similar numbers of women having donor red cell transfusions, but the number of units those women are receiving has reduced.
- We believe that high use of cell salvage enables our staff to become skilled in its use.
- Obstetric haemorrhage at CS can be difficult to predict.
- The role of the blood conservation coordinator has been crucial for being able to train and support so many members of staff in ICS.
- Forceps delivery carries a high risk of haemorrhage and donor transfusion. We have recently introduced vaginal cell salvage for women declining blood products in our Trust.

References

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