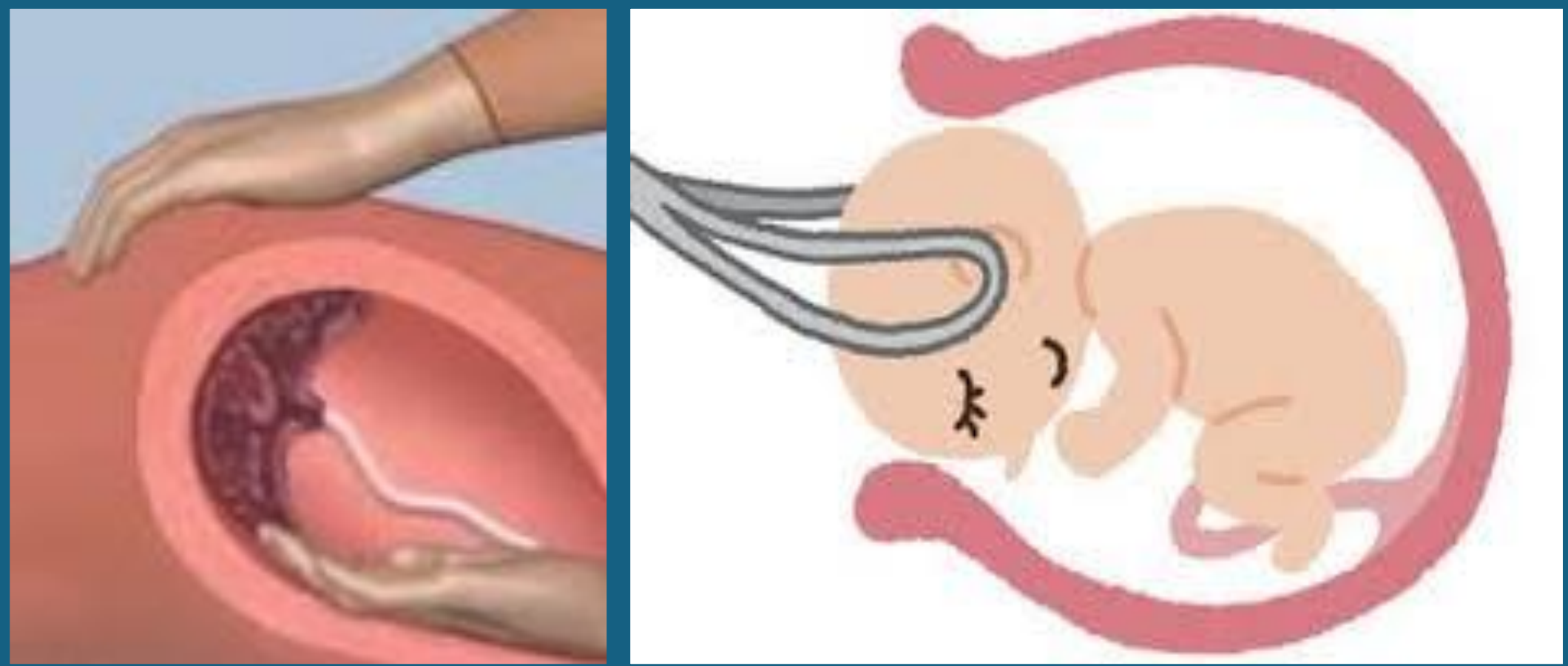
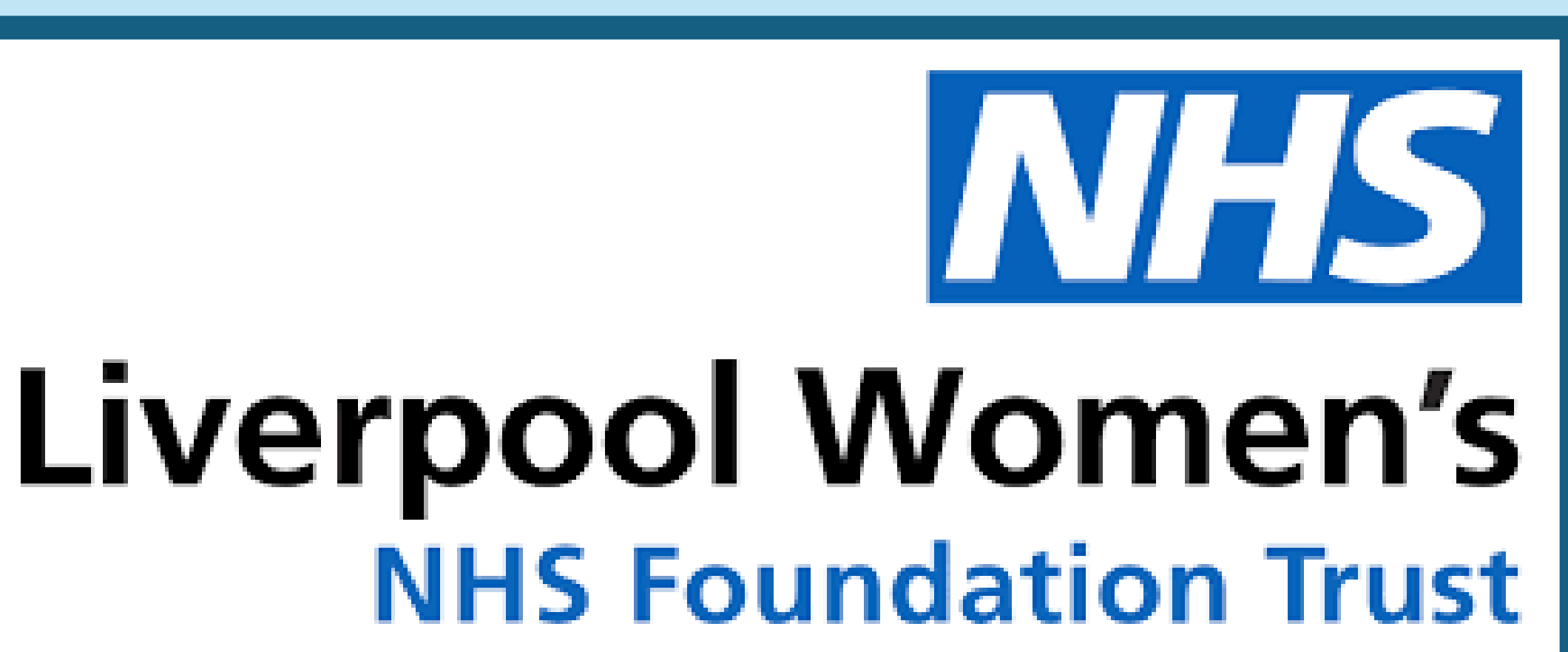




Impact of vaginal haemorrhage - is cell salvage the missing link?

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Introduction

Vaginal haemorrhage is a significant source of obstetric bleeding, with 18% of instrumental deliveries losing >1000 ml of blood (comparable to 20% for emergency caesarean sections) [1]. Whilst cell salvage is commonly used at caesarean section, its use for vaginal blood loss is currently limited by lack of data regarding safety and feasibility [2]. Our aim was to record the impact of vaginal blood loss on patients recently discharged from a major obstetric hospital, to assess clinical need and patient acceptability of vaginal cell salvage with a view to potentially guide future studies.

Methods

This study was a retrospective cohort study with additional patient survey. Following trust audit department approval, obstetric patients were identified who lost more than 1000 ml blood during theatre procedures for either instrumental delivery or retained placenta throughout the period 01/06/2023 to 31/11/2023. Electronic patient records were reviewed, and the following data was recorded where available:

- Pre-delivery haemoglobin (Hb) concentration
- Post-delivery haemoglobin concentration
- Evidence of postoperative red blood cell transfusion
- Evidence of postoperative oral or intravenous iron therapy.

Subsequently, identified patients were contacted by telephone and, after verbal consent, were asked about the impact of anaemia, iron therapy and the hypothetical acceptability of vaginal cell salvage, had this been available.



Figure 1: Process diagram of study

Results

During a six-month period at our trust, 113 patients were identified as losing greater than 1000 ml of blood during either instrumental delivery (ID) or manual removal of placenta (MROP). We randomly selected 40 of these patients for our vaginal cell salvage audit, of these 33 were ID and 7 MROP.

Our retrospective cohort study results showed:

- Mean (SD) blood loss for ID was 1263 (224) ml and for MROP was 1884 (642) ml
- The mean Hb prior to delivery was 119 g/L, with 2/40 patients having a pre-delivery Hb of less than 100 g/L
- The mean Hb recorded Hb post-delivery 91 g/L. Hb was <100 g/L in 76% and <80 g/L in 19%
- Red cell transfusion occurred in 18% of the 40 patients
- 16/40 (47%) patients received oral iron, and 12/40 (35%) received IV iron postnatally

Our patient survey (response rate 78% 31/40) results showed:

- 61% reported symptomatic anaemia
- 39% sought additional medical attention post discharge due to anaemia or infection
- 100% of patient would hypothetically consent to research on vaginal blood loss in theatre
- 100% of patients would hypothetically accept vaginal cell salvaged blood if shown to be safe in the future

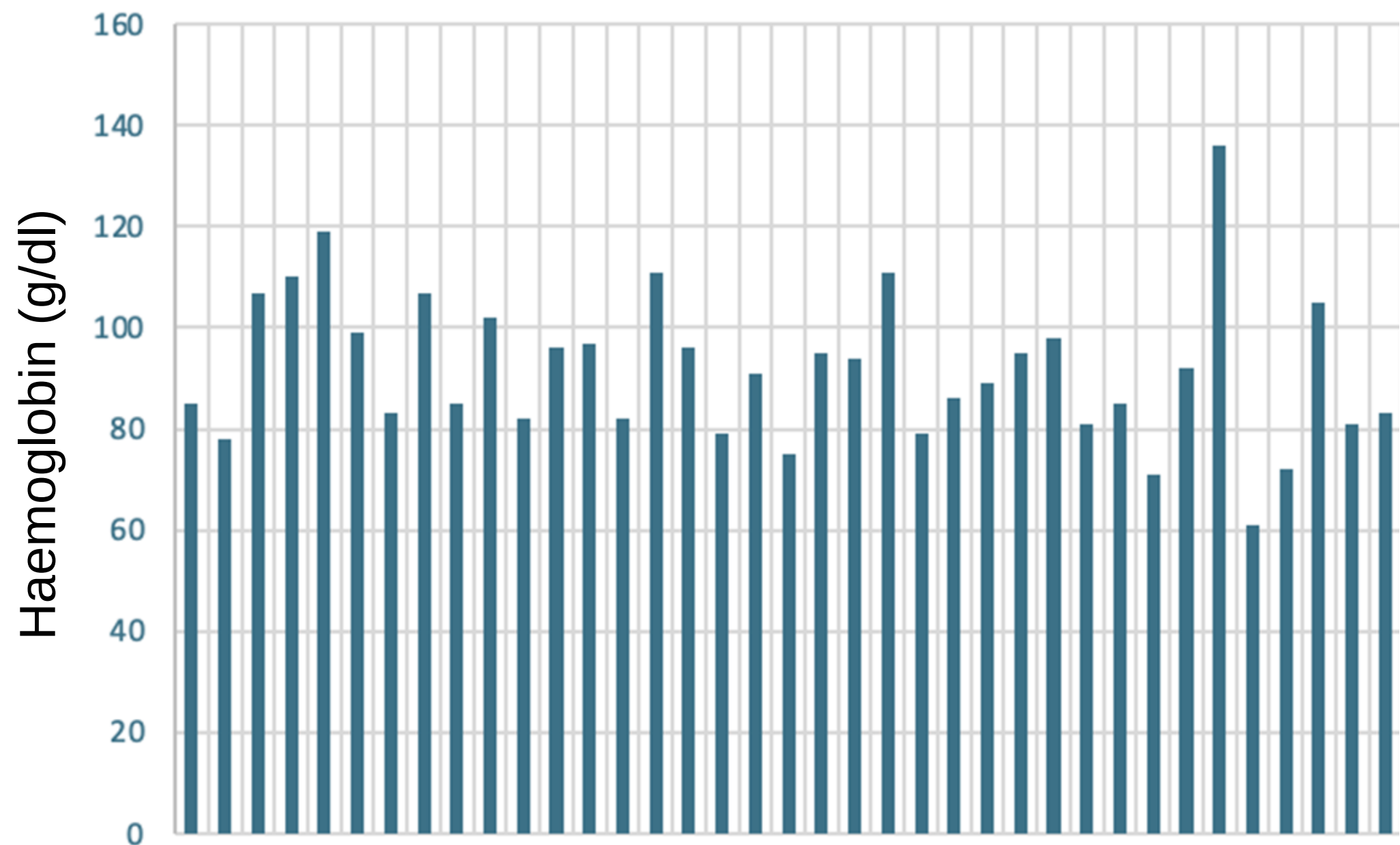


Figure 2: Post-delivery haemoglobin levels
Each bar represents a single patient

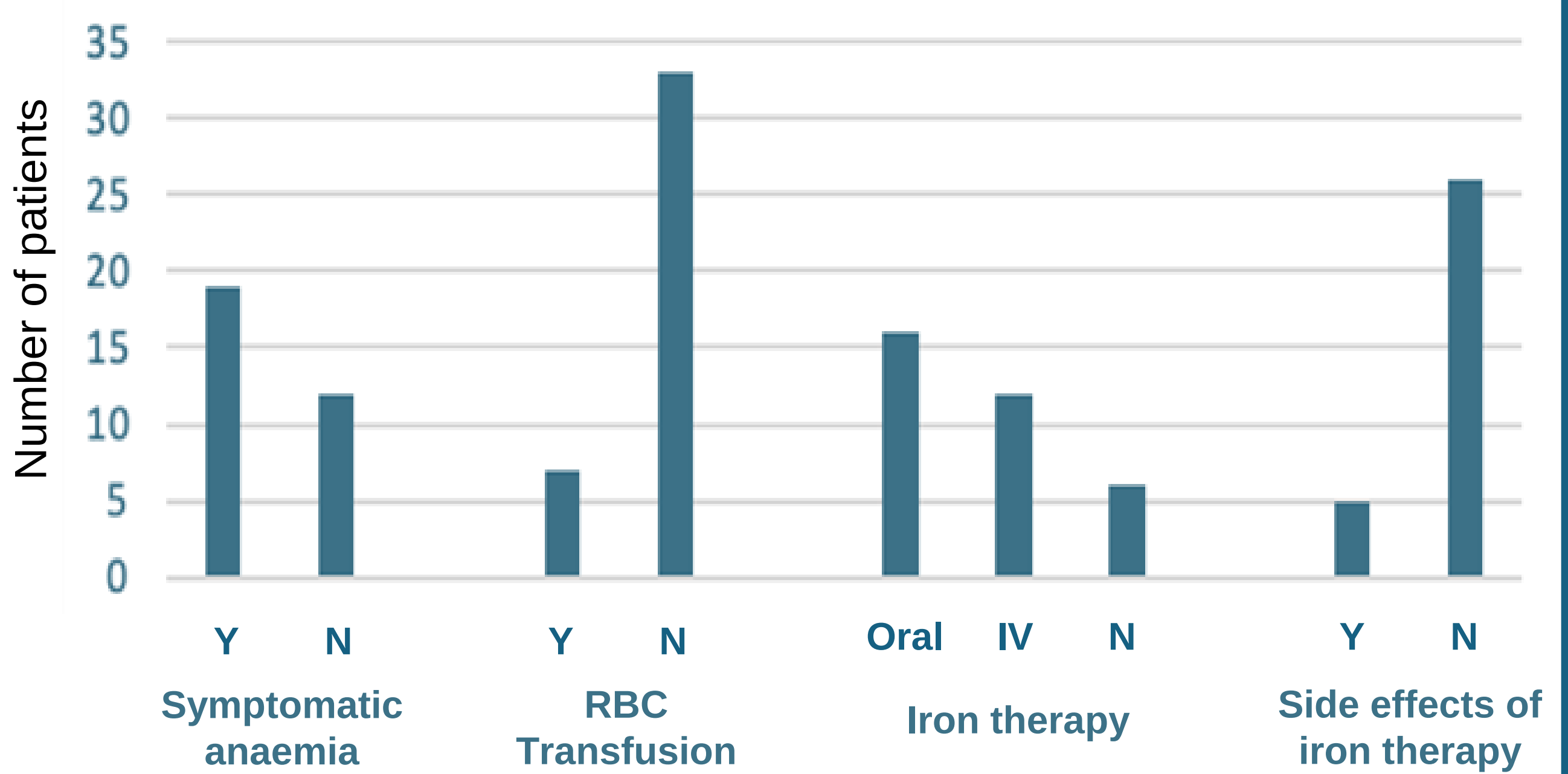


Figure 3: Grouped bar chart of post-delivery patients

Discussion

These results indicate vaginal haemorrhage has a notable postnatal impact. There were significant levels of anaemia observed in this patent cohort. A high percentage of whom were symptomatic and required medical intervention, this supports the role of vaginal cell salvage. The patient survey was a useful tool to aid future research acceptability, we demonstrated that 100% of patients would hypothetically consent to research on vaginal blood loss in theatre and if future research determines vaginal cell salvage as a safe practice, would hypothetically consent to transfusion of vaginal cell salvaged blood to mitigate the risk of post-delivery anaemia.

References

1.Bell SF, Watkins A, John M et al. Incidence of postpartum haemorrhage defined by quantitative blood loss measurement: a national cohort. BioMedCentral Pregnancy and Childbirth. 2020;20(1):271. <https://doi.org/10.1186/s12884-020-02971-3>. 2. Wilson MJA, Wrench IJ. Cell salvage for vaginal delivery – is it me we considered it? International Journal of Obstetric Anesthesia. 2015; 24(2): 97–99. <https://doi.org/10.1016/j.ijoa.2015.03.002>.