When To Stop - An Audit of Blood Transfusion in Obstetrics

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Amisha N. Burumdayal, M.B., Ch.B., FRCA; Karunakaran Ramaswamy, M.B., B.S., FRCA;
Manish Bhardwaj, M.B., B.S., FRCA; Sara McNeilis, M.B., B.S., FRCA
Stoke Mandeville Hospital

Introduction: The Royal College of Obstetricians and Gynecologists have issued guidelines regarding blood transfusion in Obstetrics (Green-top Guideline No. 47, December 2007). This formed the basis for a retrospective audit of blood transfusions in obstetric patients in a District General Hospital in the UK with about 3500 deliveries a year, comparing our practice with the existing national guidelines.

Methods: We audited blood transfusions in obstetrics for one year between October 2008 and September 2009. With the help of the Hematology and Clinical Audit Departments in the hospital, we obtained details of all 142 obstetric patients who had transfusion-related episodes over that period. Review of all case notes revealed 58 patients who actually received blood transfusions. Those notes were examined and data collected using a standardized form. We looked at the patients' parity, mode of delivery, estimated blood loss (EBL), timing of transfusion, pre and post transfusion hemoglobin (Hb), indication for transfusion and consent for transfusion.

Results: We found that of the women that had blood transfusions, 32 (55%) were nulliparous (P0), 16 (28%) Para 1(P1), the rest (17%) being multiparous, i.e. 5 Para2 and 5 Para≥2. Among those who had massive hemorrhages, 60% were nulliparous. 40% had instrumental deliveries, 33% caesarean sections and 27% normal vaginal deliveries. 31% of transfusions occurred within 24 hours of delivery, 48% after 24 hours and 21% after 48 hours when there was no active bleeding. The most common indication to transfuse was low Hb (64%), and only 29% were based on clinical signs. Pre transfusion Hb was measured in 85% of patients and revealed a value of less than 8g/dL in 82%, with 30% of those having an Hb of less than 7g/dL. Interestingly, post-transfusion Hb was more than 9g/dL in more than 75% of patients with an average of 2.4 units transfused. Consent for transfusion was documented in only 36%.

Discussion: It was interesting to note that more nulliparous women required blood transfusions and the incidence of massive hemorrhages also tended to be higher in these women. The reason for this is not known. The department is currently looking into the reason for the unexpectedly high transfusion rates for instrumental and normal deliveries as well. The initiation of transfusion seemed appropriately based on low Hb and clinical signs and most transfusions occurred less than 48 hours after delivery. However, it appears that most of our patients were over-transfused. There are no guidelines currently to suggest when to stop transfusion and there may be a place for 1 unit transfusion to avoid unnecessary use of blood products.

Conclusion: This audit showed some interesting results and is giving rise to local review of guidelines. It also illustrates some of the difficulties in obstetric transfusion practice. Continuous non invasive Hb monitoring during transfusion may be an option to guide transfusion.