Letter to the Editors

Anti-Cra: pregnancy and transfusion support

The management of a patient with anti-Cra in the UK hospitals presents a special challenge as it is impossible to locate compatible Cr(a–) RBCs from the UK donor population. The data regarding hemolytic transfusion reactions (HTR) associated with anti-Cra are very scanty.

Patients with anti-Cra have been transfused with antigen-positive RBCs uneventfully.1,2 Some transfusion facilities have provided Cr(a–) RBCs for patients with anti-Cra in which in vivo RBC survival studies demonstrated shortened RBC survival.3 Based on functional assay studies, evidence of the clinical significance of Cromer system antibodies is equivocal.4 Guidelines of the UK National Blood Service, based on the review by Daniels et al., recommended that weakly reactive Cr system antibodies are not considered clinically significant and Cr(a–) RBCs are not required for transfusion.4 Although there is no firm evidence that anti-Cra causes HTR, it has been advised that consideration should be given to provide antigen-negative RBCs for those with strong antibodies.4 There are only a few cases reported of anti-Cra during pregnancy, with no reported cases of HDN.5,6 Antibodies to Cr antigens are unique as the antibody titer may diminish, or become nondetectable during the course of the pregnancy. Weber et al. have demonstrated that the decrease in anti-Cra during pregnancy is caused by sequestration of anti-Cra by the placenta.6

Transfusion management of a patient with anti-Cra in the European hospital presents a special challenge as Cr(a–) RBCs are exceedingly rare. We report our experience in planning transfusion support for a pregnant patient with anti-Cra.

A 31-year-old Somalian woman (gravida 5, parity 4) presented at 14 weeks' gestation. Her RBCs typed as group O, R, R, and anti-Cra (IAT titer = 32) was identified in her serum. The patient was seen again at 28 weeks' gestation, and at that time the titer of the anti-Cra had dropped to 4. We discussed transfusion support for the mother with the obstetricians. Review of the case records showed that the previous pregnancies were uneventful and the patient had not required any transfusion support. It was planned to deliver the baby by vaginal route. The patient was seen again at the clinic at 35 weeks' gestation. By that time, the IAT titer had further dropped to 1. With the drop in antibody level to a very low titer, we advised transfusing group O, R, R, K– RBCs instead of searching for Cr(a–) RBCs, should the patient require a transfusion. A healthy baby was delivered by vaginal route during the weekend at 39 weeks' gestation. There was no clinical evidence of HDN. Delivery was uneventful and the mother did not require RBC transfusion. Both the mother and the baby were discharged the next day. Attempts to obtain post delivery infant's sample were unsuccessful.

Anti-Cra does not cause HDN5,6 and it has been suggested that monitoring the mother throughout pregnancy is not necessary.5 The purpose of the serial antibody titration study in our case was to demonstrate and document the drop or disappearance of antibody. Confirmation of the drop in antibody to a very low titer allowed us to make a final decision not to search for rare Cr(a–) RBCs for transfusion support for this patient.

References


Nay Win, MBBS, FRCP, FRCPaTH, CTM (Edin)
Consultant Haematologist
National Blood Service
75 Cranmer Terrace
London
SW17 ORB
United Kingdom

Malcolm Needs, CSci, FIBMS
Red Cell Immunohaematology
National Blood Service
75 Cranmer Terrace
London
SW17 ORB
United Kingdom