



## Hemolytic Disease of the Newborn due to Anti-c Antibodies

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Sir,

Our blood bank received samples of a newborn male child and his mother for blood group and cross match. The neonate developed jaundice on the 3rd day after birth (bilirubin = 27.5 mg/dL, indirect bilirubin = 24 mg/dL), which progressed further on days 4 and 5. Double volume exchange transfusion was planned and the demand was of 520 mL of fresh whole blood. The blood group of both the mother and child was B positive, so cross match with fresh B positive blood was performed. The first bag picked up randomly for cross match was found to be compatible with the baby's sample; however, it showed 4+ reaction with the mother's sample. Cross match with c negative, E negative, and K negative bag was performed next and was found to be compatible with both the mother's and baby's sample. This blood bag was issued. Subsequently, further workup with the pretransfusion samples was done. Direct Coombs test of the baby's sample was

positive (4+ reaction) and indirect Coombs test of the mother's sample was positive (4+). The 3-cell and 11-cell panels of the mother's sample showed that there was presence of anti-c antibody in the mother.

The birth history of the baby was insignificant (full-term normal vaginal delivery). He had two older siblings in whom there was no history of jaundice at or after birth. The presence of anti-c antibodies in the mother could be due to exposure to c-positive fetal blood in the previous pregnancy, since there was no history of blood transfusion in the past. These antibodies were responsible for hemolytic disease of the newborn in the current pregnancy.

The most common cause of hemolytic disease of the newborn is the presence of anti-D antibodies in the mother. However, cases due to anti-c have been reported previously. Appelman et al<sup>1</sup> reported two cases of severe hemolytic disease of the newborn. In both these cases, the mothers were multiparous and had history of blood transfusion. Another case was reported in a neonate whose mother had one healthy child from the first pregnancy and two still births following that. She had also received blood transfusion.<sup>2</sup> Maternal alloimmunization to anti-D is low due to better detection and effective preventive options; other Rh antigens remain a significant albeit uncommon cause of hemolytic disease of the newborn. Prophylactic immunoglobulins are not available yet to prevent the formation of these antibodies.

### REFERENCES

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