Hemolytic Disease of the Fetus and Newborn: Understanding the Testing Needed to Confirm the Identity of the Causative Antibody

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A recent article by Beck et al[1] contributes to our understanding of hemolytic disease of the fetus and newborn (HDFN) mediated by antibodies against non-Rhesus blood group antigen systems. However, there are critical methodological and reporting errors that preclude the ability to draw the conclusions asserted by the authors. First, the authors provide no compelling evidence that the antibody causing the fetal anemia is due to anti-M other than a positive indirect antiglobulin test (IAT) for anti-M in maternal plasma and a coincidentally positive direct antiglobulin test (DAT) on neonatal cells. The authors provide no information regarding plasma studies in the newborn, elution studies, low-incidence antibody testing, or newborn M antigen typing. A positive newborn DAT is nondiagnostic and requires further evaluation, as even a negative maternal IAT does not preclude the possibility of HDFN to a low-incidence maternal alloantibody.[2] Further, contemporary and historical literature of larger case series found that in HDFN caused by anti-M the neonatal DAT is more frequently negative than positive.[2–4] Therefore, the positive DAT cited by Beck et al could theoretically lower one's suspicion for the cause of HDFN being solely due to anti-M. In addition, when discussing any case of HDFN, but especially with anti-M where the antibody's isotype and reacting temperature can be in question, the testing methods including platform technology, temperature, and enhancement media are vital to the discussion.[5] Beck et al provide no information regarding the antibody identification or titer techniques used in the maternal or neonatal testing nor do the authors provide methodological description of the maternal breast milk testing. Though this case could be an important addition to the growing body of evidence supporting anti-M as a cause of HDFN, further investigation and reporting are required to definitively establish the conclusions proclaimed by the authors.

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Conflict of Interest
None declared.

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