MINNESOTA
NEONATAL
PHYSICIANS P.A.

Postnatal management of Red Cell Alloimmunization Following In-utero Transfusion (IUT) Therapy

Most infants with Rh isoimmunization who are managed prenatally with IUT therapy will have an adequate hematocrit at birth and little evidence of hemolytic disease of the newborn. The majority of their circulating RBC's will be Rh negative donor cells and postnatal blood typing may indicate that they are Rh negative. Despite initial presentation, these infants may still require intensive phototherapy, IVIG treatment, or an exchange transfusion after birth. In addition, as donor cells senesce and are removed from the circulation, and RBC's newly released from the bone marrow continue to be eliminated due to to the presence of maternal anti-D antibody, the infant may become anemic. The need for late transfusion therapy is sometimes required, as these infants can progress to severe anemia leading to failure to thrive and cardiovascular compromise. All infants who received IUT should be monitored closely for anemia with referral to Pediatric Hematology if approaching criteria for outpatient transfusion treatment. MNP takes the following approach to these infants:

After delivery

Send cord or infant blood for type and screen, hematocrit, reticulocyte count, direct Coomb's and bilirubin.
Begin phototherapy if bili > 5

At 4-6 hours of life

Repeat hematocrit and bilirubin.
Calculate rate of bilirubin rise and if >= 0.5 mg/dL/hr, start aggressive phototherapy.

Ongoing monitoring

Schedule bilirubin checks every 4-8 hours based on rate of bilirubin rise.
Consider IVIG therapy if approaching exchange criteria or rate of rise predicts the need for exchange therapy using the standard Bhutani Nomogram (AAP guideline).
Consider central line placement if concerned that exchange therapy might be needed.
Continue to follow hematocrit daily and consider a transfusion for hct < 22-24%, hemoglobin < 8 gm/dL.

Follow up

All infant should have a hematocrit and reticulocyte on the day of discharge.
Weekly hematocrit and reticulocyte counts should be followed until the hematocrit is stable and the reticulocyte count is rising for 2 successive weeks.
Routine iron supplementation should be given based on infant diet. Assessment of iron status may be indicated.
Consult Pediatric Hematology for outpatient guidance and to arrange a transfusion if needed after discharge.

Call the NICU at 612-813-6295 to arrange admission or speak to the neonatologist with any questions about these guidelines.

2545 Chicago Ave. S. Suite 512 Minneapolis, MN 55404
(P) 612.813.6475 (F) 612.813.6983 mnneo.org