Neonatal Cord Blood Testing – Update

MNCY SCN & Alberta Precision Laboratories

December 2020: Avoid routinely performing direct antiglobulin test on all neonatal cord samples.

Rationale: The DAT is not a screening test for hyperbilirubinemia or hemolytic disease. Routine assessment of the DAT may reveal cases of ABO incompatibility which are clinically insignificant; conversely the DAT may fail to identify significant hemolysis due to non immune causes. The DAT should be performed only when anemia or hyperbilirubinemia is suspected or when maternal alloantibodies are present.

Key Messages

AHS 2020 Hyperbilirubinemia Guideline

Although DAT positivity / isoimmune hemolytic disease is considered a susceptibility risk factor it has been confirmed that the expectation is not to pre-emptively test unless clinical features or transcutaneous bilirubin levels indicate.

CPS 2007 Guideline

ABO isoimmunization may cause severe hyperbilirubinemia, most commonly in blood group A & B infants born to a mother of group O.

It is therefore recommended to perform a DAT in infants who are clinically jaundiced.

References:

Aydin et al. Pediatrics & Neurology 2016; 57: 449 Dinesh et al. J Pediatr Child Health 2005; 41: 504-7 Judd. Transfusion 2001; 41: 1445-1452 Keir et al. Archives Des Child Edu Pract 2014

Recommended Action

All neonatal cord bloods are to be sent to transfusion medicine/blood bank. The MNCY approved blood bank algorithm has routine testing performed only if:

- Mother is Rh negative or Rh testing is unavailable
- Mother has positive antibody screen or history of positive antibody screen
- Cord blood is from a stillbirth

All other cord bloods will be held for 7 days.

If there is strong clinical rationale or the infant subsequently presents with jaundice then testing will be performed at the clinician's request. This information can be submitted with the cord specimen, if known at time of delivery, or through add-on processes.

The approved cord testing algorithm is posted on the <u>Provincial Transfusion Medicine Website</u>.

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