

Perinatal Transfusion Medicine

Four Things Clinicians and Patients Should Question

by

Canadian Obstetrical and Pediatric Transfusion Network

Canadian Society for Transfusion Medicine

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1 Do not routinely perform a group and screen test at the time of delivery unless there is no prior test during the current pregnancy and/or the risk of maternal hemorrhage or transfusion is high.

The likelihood of requirement for transfusion at the time of delivery is low. In a patient with a prenatal record confirming maternal ABO, Rh and a negative antibody screen provision of emergency uncrossmatched units is relatively safe when required on rare occasions. Routine pre delivery group and screen is not cost effective given the very low risk of transfusion with either vaginal delivery or routine Caesarean section. In the rare occasion that patients require a blood transfusion, O negative un-crossmatched blood or a stat crossmatch could be done pre-transfusion.

2 Do not perform serological weak D testing on antenatal samples with weak or variable RhD typing results.

Serologically weak reactions with Anti D antisera ($\leq 2+$) should be investigated with RHD genotyping. Pregnant mothers with weak or variable RhD typing and with pending genotyping results should be treated as RhD negative and should receive RhIg. Patients with genotyping confirming weak D type 1, 2 or 3 should be treated as RhD positive. Patients with other weak and variant RHD genotypes should be treated as RhD negative.

3 Do not repeat prenatal titrations for mothers with clinically significant antibodies (e.g. RhD, K) if prediction of fetal cognate antigen typing is feasible and is deemed to be negative.

Testing of a paternal sample and finding a negative antigen status (when paternity is assured) and/or non-invasive prenatal determination of the fetal genotype from maternal plasma with prediction of a negative antigen status confirm that the fetus is not at risk for hemolytic disease of the fetus and newborn and that ongoing pregnancy monitoring is unnecessary.

4 Avoid routinely performing direct antiglobulin test on all neonatal cord samples.

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.

How the list was created

The Canadian Obstetrics and Pediatric Transfusion Network (COPTN) compiled its Choosing Wisely Canada list of recommendations by putting out a call to its membership for suggested list items. The chairs of COPTN compiled these suggestions and developed the rationale and references. These statements and rationale were presented virtually to the COPTN committee who ranked the suggestions according to their importance and refined the wording and the order of the item lists.

Sources

- 1 Stock et al. Why group & save? Blood transfusion at low-risk elective caesarean section. *Aust N Z J Obstet Gynaecol*. 2014 Jun;54(3):279-82. [PMID: 24576105](#).
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- 2 Flegel et al. It's time to phase out "serologic weak D phenotype" and resolve D types with RHD genotyping including weak D type 4. *Transfusion*. 2020 Apr;60:855-59. [PMID: 32163599](#).
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- 3 de Haas et al. Haemolytic Disease of the fetus and newborn. *Vox Sang*. 2015 Aug;109(2):99-113. [PMID: 25899660](#).
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- 4 Aydin et al. Is the Antiglobulin Test a Good Marker for Predicting the Development of Hemolytic Disease of the Newborn in ABO Incompatibility? *Pediatr Neonatol*. 2016 Oct; 57(5),449. [PMID: 27211278](#).
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About the Canadian Obstetrical Pediatric Transfusion Network

The Canadian Obstetrical Pediatric Transfusion Network (COPTN) is a sub-committee of the CSTM. It was founded in 2017 and its mandate is to assess, analyze and strive to implement best practices in pediatric and obstetrical transfusion practice in Canada.

About the Canadian Society for Transfusion Medicine

The Canadian Society for Transfusion Medicine (CSTM) is a proud partner of the Choosing Wisely Canada campaign. The CSTM is a multidisciplinary society which promotes and supports best practice in Transfusion Medicine in Canada through education, communication and partnerships.



About Choosing Wisely Canada

Choosing Wisely Canada is the national voice for reducing unnecessary tests and treatments in health care. One of its important functions is to help clinicians and patients engage in conversations that lead to smart and effective care choices.

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