Transfusion Medicine in Obstetrics

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PII: S0887-7963(18)30102-0
DOI: doi:10.1016/j.tmrv.2018.08.005
Reference: YTMRV 50555

To appear in: *Transfusion Medicine Reviews*

Received date: 16 August 2018
Accepted date: 16 August 2018

Please cite this article as: Barbara A. Konkle, Annemarie E. Fogerty , Transfusion Medicine in Obstetrics. Ytmrv (2018), doi:10.1016/j.tmrv.2018.08.005

Editorial

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Pregnancy usually results in delivery of a healthy infant, with mother and infant recovering well. However, the many physiologic stressors that accompany pregnancy and delivery also introduce risk, and pregnancy remains a significant cause of morbidity and mortality for many women worldwide. WHO statistics document that over 800 women die each day from pregnancy-related complications. According to statistics from the U.S. Centers for Disease Control, there were 2,726 pregnancy-related deaths in the U.S. between 2011 and 2014; 11.5% of these were related to hemorrhage. This issue of *Transfusion Medicine Reviews* is dedicated to the management of hematologic complications and approach to transfusion therapy in Obstetrics. Women with certain underlying medical conditions or acquired disorders during pregnancy present special challenges in diagnosis and treatment. In this issue, we provide critical reviews of several areas where optimal transfusion management is needed to improve outcomes.

This issue also celebrates the 200th anniversary of the first transfusion by James Blundell, recognized as the "father of transfusion." While the first transfusion was not given to a woman, Dr. Blundell was a London obstetrician who specialized in the care of women with postpartum hemorrhage (PPH), and obstetrical bleeding was the indication for nearly all early experience in transfusion therapy. As noted by Dr. Dzik, successful transfusion became a reality because of the work of many individuals. The early history of transfusion nicely demonstrates "team science" and the failures, as well as successes, of early scientific endeavors, all contributing to the knowledge base necessary for successful transfusion therapy.

A concern for medical providers of females of childbearing age is alloimmunization to a red blood cell (RBC) antigen and the effect on subsequent pregnancies if the fetus bears that antigen. Alloimmunization may have devastating consequences for the fetus, the most severe of which is hydrops fetalis. The article by Drs. Webb and Delaney reviews strategies and outcomes for the testing and management of an alloimmunized mother with an affected fetus, as well as prevention strategies to avoid RBC sensitization. Unfortunately, there is not always consensus on the best approach to prevent alloimmunization. Methods that are effective may not be uniformly instituted, and even when instituted, may still be ineffective. However, advances in techniques for early detection of hydrops and use of fetal transfusion has improved outcomes.

As the clinical care of patients with sickle cell disease (SCD) has improved, many more women with SCD are reaching reproductive age. Pregnancy in women affected by SCD is complicated by high rates of both maternal and fetal morbidity and mortality. While transfusion therapy remains the primary treatment of patients with SCD, its optimal use in pregnancy is still unclear. RBC alloimmunization to prior transfusions further complicates the management of SCD in pregnancy. In this issue, Dr. Jackson and colleagues evaluate the data available on transfusion in pregnant patients with SCD, and note the critical need for more studies in this area.