Alloimmunization Management Clinical Pocket Guide: Reference List

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View the pocket guide at www.allohopefoundation.org, or e-mail info@allohopefoundation.org to request a free laminated guide by mail.

Use of cffDNA for determination of fetal antigen status:
Alford B, Landry BP, Hou S, Bower X, Bueno AM, Chen D, Husic B, Cantonwine DE, McElrath TF, Carozza JA, Wynn J. Validation of a non-invasive prenatal test for fetal RhD, C, c, E, K and Fya antigens. Scientific Reports. 2023 Aug 7;13(1):12786.

Moise KJ, Abels EA. Management of Red Cell Alloimmunization in Pregnancy. Obstetrics and Gynecology 2024; 114:465-480.

Rego S, Balogun OA, Emanuel K, Overcash R, Gonzalez JM, Denomme GA, Hoskovec J, King H, Wilson A, Wynn J, Moise Jr KJ. Cell-free DNA analysis for the determination of fetal red blood cell antigen genotype in alloimmunized pregnancies. medRxiv. 2024 Mar 26:2024-03.

Frequency of titer assessments:
Moise Jr KJ. Rh and other blood group alloimmunizations. Queenan's Management of High-Risk Pregnancy: An Evidence-Based Approach. 2024 Jan 2:312-8.

Moise KJ, Abels EA. Management of Red Cell Alloimmunization in Pregnancy. Obstetrics and Gynecology 2024; 114:465-480.

Initially low or stable titers can escalate rapidly:
Dajak S, Stefanović V, Čapkun V. Severe hemolytic disease of fetus and newborn caused by red blood cell antibodies undetected at first-trimester screening (CME). Transfusion. 2011 Jul;51(7):1380-8.

Begin MCA dopplers at 15-16 weeks gestational age:
Moise KJ, Abels EA. Management of Red Cell Alloimmunization in Pregnancy. Obstetrics and Gynecology 2024; 114:465-480.

Weekly MCA dopplers for known or presumed fetal antigen positive pregnancies with critical titers:
van't Oever RM, Zwiers C, de Winter D, de Haas M, Oepkes D, Lopriore E, Verweij EJ. Identification and management of fetal anemia due to hemolytic disease. Expert Review of Hematology. 2022 Nov 2;15(11):987-98.

Zimmermann R, Durig P, Carpenter Jr RJ, Mari G. Longitudinal measurement of peak systolic velocity in the fetal middle cerebral artery for monitoring pregnancies complicated by red cell alloimmunisation: a prospective multicentre trial with intention-to-treat. BJOG: an international journal of obstetrics and gynaecology. 2002 Jul 1;109(7):746-52.

IVIG can delay time to first IUT in cases of severe alloimmunization:
Zwiers C, van der Bom JG, van Kamp IL, van Geloven N, Lopriore E, Smoleniec J, Devlieger R, Sim PE, Ledingham MA, Tiblad E, Moise Jr KJ. Postponing early intrauterine transfusion with intravenous immunoglobulin treatment; the PETIT study on severe hemolytic disease of the fetus and newborn. American journal of obstetrics and gynecology. 2018 Sep 1;219(3):291-e1.

Emerging FcRn blocker for HDFN in development:
Moise Jr KJ, Ling LE, Oepkes D, Tiblad E, Verweij EJ, Lopriore E, Smoleniec J, Sachs UJ, Bein G, Kilby MD, Miller RS. Nipocalimab in early-onset severe hemolytic disease of the fetus and newborn. New England Journal of Medicine. 2024 Aug 8;391(6):526-37.

After a 1.5 MCA Doppler MoM, do not wait for hydrops to develop before intervening with IUT:
Zwiers C, Lindenburg IT, Klumper FJ, De Haas M, Oepkes D, Van Kamp IL. Complications of intrauterine intravascular blood transfusion: lessons learned after 1678 procedures. Ultrasound in Obstetrics & Gynecology. 2017 Aug;50(2):180-6.

Deliver at 37-38w gestation for known or presumed antigen positive pregnancies regardless of titer:
American College of Obstetricians and Gynecologists, Committee on Obstetric Practice, Society for Maternal-Fetal Medicine. Medically indicated late-preterm and early-term deliveries: ACOG Committee Opinion, Number 831. Obstetrics and gynecology. 2021 Jul 1;138(1):e35-9.

Follow AAP guidelines for hyperbilirubinemia:
Kemper AR, Newman TB, Slaughter JL, Maisels MJ, Watchko JF, Downs SM, Grout RW, Bundy DG, Stark AR, Bogen DL, Holmes AV. Clinical practice guideline revision: management of hyperbilirubinemia in the newborn infant 35 or more weeks of gestation. Pediatrics. 2022 Aug 1;150(3).

Hemolytic anemia often does not require transfusion until 2 weeks of age or later; many HDFN infants require weekly follow-up through 3 months of age:
De Winter DP, Hulzebos C, Van ‘t Oever RM, De Haas M, Verweij EJ, Lopriore E. History and current standard of postnatal management in hemolytic disease of the fetus and newborn. European Journal of Pediatrics. 2023 Feb;182(2):489-500.