No. 133, Reaffirmed January 2018

No. 133-Prevention of Rh Alloimmunization

This guideline has been reaffirmed for use by the Maternal-Fetal Medicine Committee and the Genetics Committee, with input from the Rh Program of Nova Scotia, and approved by the Executive and Council of The Society of Obstetricians and Gynaecologists of Canada. A revision is underway.

Karen Fung Kee Fung, MD, Ottawa, ON

Erica Eason, MD, Ottawa, ON

Maternal Fetal Medicine Committee: Joan Crane (Chair), MD, St.John's NL; Anthony Armson, MD, FRCSC, Halifax NS; Sandra de la Ronde, MD, FRCSC, Calgary AB; Dan Farine, MD, FRCSC, Toronto ON; Lisa Keenan-Lindsay, RN, Toronto ON; Line Leduc, MD, FRCSC, Montreal QC; Gregory J. Reid, MD, FRCSC, Winnipeg MB; John Van Aerde, MD, FRCPC, Edmonton AB.

GENETICS COMMITTEE: R. Douglas Wilson (Chair), MD, FRCSC, Philadelphia PA; Gregory Davies, MD, FRCSC, Kingston ON; Valerie A. Desilets, MD, FRCSC, Montreal QC; Gregory J. Reid, MD, FRCSC, Winnipeg MB; Anne Summers, MD, FRCPC, Toronto, ON; Philip Wyatt, MD, PhD, North York ON; David C. Young, MD, FRCSC, Halifax NS.

Key Words: Rhesus, alloimmunization, fetus, anemia

Abstract

Objective: To provide guidelines on use of anti-D prophylaxis to optimize prevention of rhesus (Rh) alloimmunization in Canadian women.

Outcomes: Decreased incidence of Rh alloimmunization and minimized practice variation with regards to immunoprophylaxis strategies.

Evidence: The Cochrane Library and MEDLINE were searched for English-language articles from 1968 to 200 I, relating to the prevention of Rh alloimmunization. Search terms included: Rho(D) immune globulin, Rh iso- or aile-immunization, anti-D, anti-Rh, WinRho, Rhogam, and pregnancy. Additional publications were identified from the bibliographies of these articles. All study types were reviewed. Randomized controlled trials were considered evidence of highest quality, followed by cohort studies. Key individual studies on which the principal recommendations are based are referenced. Supporting data for each recommendation is briefly summarized with evaluative comments and referenced.

Values: The evidence collected was reviewed by the Maternal-Fetal Medicine and Genetics Committees of The Society of Obstetricians and Gynaecologists of Canada (SOGC) and quantified using the Evaluation of Evidence guidelines developed by the Canadian Task Force on the Periodic Health Exam.

Recommendations:

1. Anti-D Ig 300 μg IM or IV should be given within 72 hours of delivery to a postpartum nonsensitized Rh-negative woman delivering an Rh-positive infant. Additional anti-D Ig may be required for fetomaternal hemorrhage (FMH) greater than 15 ml of fetal red blood cells (about 30 ml of fetal blood). Alternatively, anti-D Ig 120 μg IM or IV may be given within 72 hours of delivery, with testing and additional anti-D Ig given for FMH over 6 ml of fetal red blood cells (12 mL fetal blood) (I-A).
2. If anti-D is not given within 72 hours of delivery or other potentially sensitizing event, anti-D should be given as soon as the need is recognized, for up to 28 days after delivery or other potentially sensitizing event (III-B).
3. There is poor evidence regarding inclusion or exclusion of routine testing for postpartum FMH, as the cost-benefit of such testing in Rh mothers at risk has not been determined (III-C).
4. Anti-D Ig 300 μg should be given routinely to all Rh-negative nonsensitized women at 28 weeks' gestation when fetal blood type is unknown or known to be Rh-positive. Alternatively, 2 doses of 100–120 μg may be given (120 μg being the lowest currently available dose in Canada): one at 28 weeks and one at 34 weeks (I-A).

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5. All pregnant women (D-negative or D-positive) should be typed and screened for alloantibodies with an indirect antiglobulin test at the first prenatal visit and again at 28 weeks (III-C).
6. When paternity is certain, Rh testing of the baby's father may be offered to all Rh-negative pregnant women to eliminate unnecessary blood product administration (III-C).
7. A woman with "weak D" (also known as D^u-positive) should *not* receive anti-D (III-D).
8. A repeat antepartum dose of Rh immune globulin is generally not required at 40 weeks, provided that the antepartum injection was given *no earlier than 28 weeks' gestation* (III-C).
9. After miscarriage or threatened abortion or induced abortion during the first 12 weeks of gestation, nonsensitized D-negative women should be given a minimum anti-D of 120 μg. After 12 weeks' gestation, they should be given 300 μg (II-3B).
10. At abortion, blood type and antibody screen should be done unless results of blood type and antibody screen during the pregnancy are available, in which case antibody screening need not be repeated (III-B).
11. Anti-D should be given to nonsensitized D-negative women following ectopic pregnancy. A minimum of 120 μg should be given before 12 weeks' gestation and 300 μg after 12 weeks' gestation (III-B).
12. Anti-D should be given to nonsensitized D-negative women following molar pregnancy because of the possibility of partial mole. Anti-D may be withheld if the diagnosis of complete mole is certain (III-B).
13. At amniocentesis, anti-D 300 μg should be given to nonsensitized D-negative women (II-3B).
14. Anti-D should be given to nonsensitized D-negative women following chorionic villous sampling, at a minimum dose of 120 μg during the first 12 weeks' gestation, and at a dose of 300 μg after 12 weeks' gestation (II-B).
15. Following cordocentesis, anti-D lg 300 μg should be given to nonsensitized D-negative women (II-3B).
16. Quantitative testing for FMH may be considered following events potentially associated with placental trauma and disruption of the fetomaternal interface (e.g., placental abruption, blunt trauma to the abdomen, cordocentesis, placenta previa with bleeding). There is a substantial risk of FMH over 30 ml with such events, especially with blunt trauma to the abdomen (III-B).
17. Anti-D 120 μg or 300 μg is recommended in association with testing to quantitate FMH following conditions potentially associated with placental trauma and disruption of the fetomaternal interface (e.g., placental abruption, external cephalic version, blunt trauma to the abdomen, placenta previa with bleeding). If FMH is in excess of the amount covered by the dose given (6 mL or 15 mL fetal RBC), 10 μg additional anti-D should be given for every additional 0.5 mL fetal red blood cells. There is a risk of excess FMH, especially when there has been blunt trauma to the abdomen (III-B).
18. Verbal or written informed consent must be obtained prior to administration of the blood product Rh immune globulin (III-C).

Validation: These guidelines have been reviewed by the MaternalFetal Medicine Committee and the Genetics Committee, with input from the Rh Program of Nova Scotia. Final approval has been given by the Executive and Council of The Society of Obstetricians and Gynaecologists of Canada.

Sponsors: The Society of Obstetricians and Gynaecologists of Canada.