

Screening for Rh (D) Incompatibility: A Brief Evidence Update for the U.S. Preventive Services Task Force

Methodology

A general search strategy, limited to the English language and the years 1994–2002, was used to search MEDLINE. Because no clearly defined MeSH headings were relevant to this topic, the search strategy focused on a series of key terms. The following key terms yielded 1,154 articles: Rh (D) Immune Globulin, Rh-Hr Blood-Group System, Erythroblastosis, and Fetal, Rh Isoimmunization.

This general search strategy was refined into a combined search strategy linking Rh (D) incompatibility with screening (29 records), meta-analyses (1 record), reviews (132 records), randomized controlled trials (RCTs) (14 records), outcomes (37 records), and editorials (20 records) for review. The search strategy was expanded in response to expert reviews to include amniocentesis and fetal antigen as well as fetal anemia detection.

Citations were analyzed and abstracts that fit the eligibility criteria for assessment were culled. Full-text articles based on potentially suitable abstracts were obtained and reviewed

for inclusion or exclusion. These findings are detailed below.

Key Questions and Results

1. Is there new, direct evidence that screening for Rh (D) incompatibility leads to reduced maternal morbidity or mortality?

We found no RCTs with direct evidence addressing the role of screening for Rh (D) incompatibility leading to reductions in maternal morbidity or mortality.

2. Have new screening tests been developed and tested to show improvement in the health outcomes of Rh (D) incompatibility?

We found no RCTs with direct evidence addressing new screening tests that have been developed and tested to show improvement in health outcomes of Rh (D) incompatibility. However, we did identify two studies that suggest

Systematic Evidence Reviews serve as the basis for U.S. Preventive Services Task Force recommendations on clinical prevention topics. The USPSTF tailors the scope of these reviews to each topic. The USPSTF determined that a brief evidence update was needed to assist in updating its 1996 recommendations on screening for Rh (D) incompatibility.¹ This brief evidence update was written by Lucy A. Savitz.

To assist the USPSTF, the RTI International-University of North Carolina Evidence-based Practice Center, under contract to the Agency for Healthcare Research and Quality (AHRQ), performed a targeted review of the literature published on this topic from 1994 to 2002. This brief evidence update and the updated recommendation statement² are available through the AHRQ Web site (<http://www.preventiveservices.ahrq.gov>) and in print through subscription to the *Guide to Clinical Preventive Services, Third Edition: Periodic Updates*. The subscription costs \$60 and can be ordered through the AHRQ Publications Clearinghouse (call 1-800-358-9295, or e-mail ahrqpubs@ahrq.gov). The recommendation is also posted on the Web site of the National Guideline Clearinghouse™ (www.guideline.gov).

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that Doppler ultrasonography is an accurate noninvasive screening test for fetal anemia in pregnancies complicated by Rh (D) incompatibility.^{3,4}

3. Have new treatment protocols been developed and tested to show improvement in health outcomes of Rh (D) incompatibility?

We found no RCTs with direct evidence addressing new treatment protocols developed and tested to show improvement in health outcomes of Rh (D) incompatibility.

4 and 5: Have new harms been identified for screening or treatment of Rh (D) incompatibility and/or has stronger evidence for existing harms become apparent?

We found no RCTs with direct evidence identifying either new or stronger harms associated with screening or treatment of Rh (D) incompatibility.

Summary

No RCTs that addressed the 5 key questions were identified by this review. Nevertheless, 2 studies suggest that Doppler ultrasonography is an accurate noninvasive screening test for fetal anemia in pregnancies complicated by Rh (D) incompatibility.^{3,4}

No ongoing research was identified in this review.

Recommendations of Professional Organizations

The Canadian Task Force on Preventive Health Care recommendation on screening for Rh (D) incompatibility can be accessed at <http://www.ctfphc.org/>.

The guidelines from the American College of Obstetricians and Gynecologists (ACOG) can be found in the ACOG *Practice Bulletin*.⁵

References

1. U.S. Preventive Services Task Force. *Guide to Clinical Preventive Services*. 2nd ed. Washington, DC: Office of Disease Prevention and Health Promotion; 1996.
2. U.S. Preventive Services Task Force. Screening for Rh (D) incompatibility: recommendation statement. February 2004. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.ahrq.gov/clinic/3rduspstf/rh/rhrs.htm>.
3. Haugen G, Husby H, Helbig AE, Schmidt-Melbye AC. Ultrasonographic monitoring of pregnancies complicated by red blood cell alloimmunization in a cohort with mild to moderate risk according to previous obstetric outcome. *Acta Obstet Gynecol Scand*. 2002 Mar; 81(3):227–233.
4. Mari G, Detti L, Oz U, Zimmerman R, Duerig P, Stefos T. Accurate prediction of fetal hemoglobin by Doppler ultrasonography. *Obstet Gynecol*. 2002 Apr; 99(4):589–593.
5. American College of Obstetricians and Gynecologists. *Prevention of Rh (D) Alloimmunization. Practice Bulletin Number 4*. Washington, DC: American College of Obstetricians and Gynecologists. 1999.