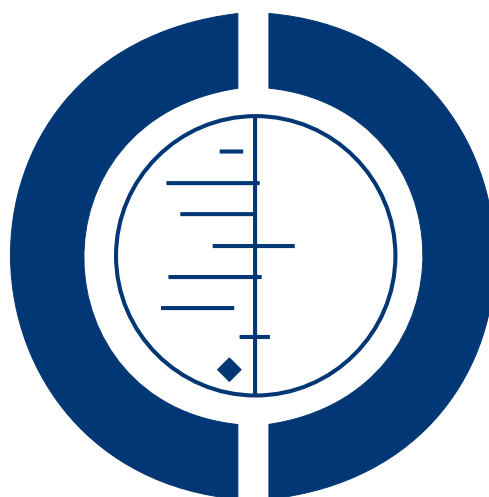


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[Intervention Review]

Anti-D administration after spontaneous miscarriage for preventing Rhesus alloimmunisation

Laxminarayan Karanth¹, Sharifah Halimah Jaafar², Sachchithanantham Kanagasabai¹, N S Nair³, Ankur Barua⁴

¹Department of Obstetrics and Gynecology, Melaka Manipal Medical College, Melaka, Malaysia. ²Department of Obstetrics and Gynaecology, Ipoh Specialist Hospital, Ipoh, Malaysia. ³Department of Statistics, Manipal University, Manipal, India. ⁴Department of Community Medicine, International Medical University (IMU), Kuala Lumpur, Malaysia

Contact address: Laxminarayan Karanth, Department of Obstetrics and Gynecology, Melaka Manipal Medical College, Bukit Baru, Jalan Batu, Hampar, Melaka, 75150, Malaysia. karanthkl@gmail.com.

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ABSTRACT

Background

During pregnancy, a Rhesus-negative (Rh-negative) woman may develop antibodies if her fetus is Rh-positive, which can cause fetal morbidity or mortality in following pregnancies, if untreated.

Objectives

To assess the effects of administering anti-D immunoglobulin (Ig) after spontaneous miscarriage in a Rh-negative woman, with no anti-D antibodies.

Search methods

We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (31 December 2012).

Selection criteria

Randomised controlled trials (RCT) in Rh-negative women without antibodies who were given anti-D Ig following spontaneous miscarriage compared with no treatment or placebo treatment following spontaneous miscarriage as control.

Data collection and analysis

Two review authors independently assessed trials for inclusion and trial quality. Two review authors extracted data and checked it for accuracy.

Main results

We included one RCT, involving 48 women who had a miscarriage between eight to 24 weeks of gestation. Of the 19 women in the treatment group, 14 had therapeutic dilatation & curettage (D&C) and five had spontaneous miscarriage; of the 29 women in the control group, 25 had therapeutic D&C and four had spontaneous miscarriage. The treatment group received 300 µg anti-D Ig intramuscular injection and were compared with a control group who received 1 cc homogenous gamma globulin placebo.

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This review's primary outcomes (development of a positive Kleihauer Betke test (a test that detects fetal cells in the maternal blood; and development of RhD alloimmunisation in a subsequent pregnancy) were not reported in the included study.

Similarly, none of the review's secondary outcomes were reported in the included study: the need for increased surveillance for suspected fetal blood sampling and fetal transfusions in subsequent pregnancies, neonatal morbidity such as neonatal anaemia, jaundice, bilirubin encephalopathy, erythroblastosis, prematurity, hypoglycaemia (low blood sugar) in subsequent pregnancies, maternal adverse events of anti-D administration including anaphylactic reaction and blood-borne infections.

The included study did report subsequent Rh-positive pregnancies in three women in the treatment group and six women in the control group. However, due to the small sample size, the study failed to show any difference in maternal sensitisation or development of Rh alloimmunisation in the subsequent pregnancies.

Authors' conclusions

There are insufficient data available to evaluate the practice of anti-D administration in an unsensitised Rh-negative mother after spontaneous miscarriage. Thus, until high-quality evidence becomes available, the practice of anti-D Immunoglobulin prophylaxis after spontaneous miscarriage for preventing Rh alloimmunisation cannot be generalised and should be based on the standard practice guidelines of each country.

PLAIN LANGUAGE SUMMARY

Anti-D administration after spontaneous miscarriage for preventing Rhesus alloimmunisation

A Rhesus-negative (Rh-negative) pregnant woman might develop Rh antibodies in her blood stream when she carries a Rh-positive baby. The subsequent antibody formation has the potential to attack the red blood cells of a Rh-positive baby during pregnancy. This might make the baby anaemic and in severe cases, the baby might die. Other Cochrane reviews provide clear evidence that giving anti-D immunoglobulin (anti-D) within 72 hours of the birth to a Rh-negative mother of a Rh-positive baby and during the third trimester reduces Rh antibody formation in future pregnancies. The chances of developing Rh antibodies may also be reduced if anti-D is given to Rh-negative women following a spontaneous miscarriage or a dilatation & curettage (D&C) for incomplete miscarriage after 12 weeks. However, our review only identified one poor quality randomised controlled trial (involving 48 women) that considered anti-D administration after therapeutic D&C or spontaneous miscarriage for preventing Rh alloimmunisation (development of antibodies in response to antigens from a non-self protein). The included study did not report any data on the review's primary or secondary outcomes. More high-quality research is needed in this field.