

Guideline for prevention of RhD alloimmunization in RhD negative women

Lubusky M.^{1,2}, Prochazka M.¹, Simecka O.³, Holuskova I.⁴

¹Department of Obstetrics and Gynecology, University Hospital, Olomouc, Czech Republic

²Department of Medical Genetics and Fetal Medicine, University Hospital, Olomouc, Czech Republic

³Department of Obstetrics and Gynecology, University Hospital, Ostrava, Czech Republic

⁴Department of Transfusion Medicine, University Hospital, Olomouc, Czech Republic

Events following which immunoglobulin (Ig) G anti-D should be given to all RhD negative women with no anti-D alloantibodies

First trimester indications IgG anti-D sufficient dose of **50 µg***

termination of pregnancy

spontaneous abortion followed by instrumentation

ectopic pregnancy

chorionic villus sampling

partial molar pregnancy

Second and third trimester indications IgG anti-D sufficient dose of **100 µg***

amniocentesis

cordocentesis

other invasive prenatal diagnostic or therapeutic procedures

spontaneous or induced abortion

intrauterine fetal death

attempt at external cephalic version of a breech presentation

abdominal trauma

obstetric haemorrhage

Antenatal prophylaxis at 28th weeks of gestation IgG anti-D sufficient dose of **250 µg***

Delivery of an RhD positive infant** IgG anti-D sufficient dose of **100 µg***

Minimal dose*: before 20 weeks gestation 50 µg (250 IU)
after 20 weeks gestation *** 100 µg (500 IU)

Timing: as soon as possible, but no later than **72 hours** after the event.

In cases where prevention of RhD alloimmunization is not performed within 72 hours of a potentially sensitising event, it is still reasonable to administer IgG anti-D within 13 days, and in special cases, administration is still recommended up to a maximum interval of 28 days postpartum.

* administration of a higher dose of IgG anti-D is not a mistake

** also if the D type is not known

*** simultaneous assessment of the volume of fetomaternal hemorrhage (FMH) to specify the dose is suitable

The FMH volume assessment

If the volume of fetal erythrocytes (red blood cells, RBCs) which entered maternal circulation is assessed, intramuscular administration of IgG anti-D in a dose of 10 µg per 0.5 mL of fetal RBCs or 1 mL of whole fetal blood is indicated. IgG anti-D in a dose of 10 µg administered intramuscularly should cover 0.5 mL of fetal RhD positive RBCs or 1 mL of whole fetal blood. FMH is fetal RBC volume; fetal blood volume is double (expected fetal hematocrit is 50%).