



Spontaneous antepartal **RhD** alloimmunization in RhD negative pregnant women



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AIM OF THE STUDY

Assess the incidence of spontaneous antepartal RhD alloimmunization in RhD negative pregnant women with an RhD positive fetus.

METHODS

A total of **906** RhD negative women with an RhD positive fetus and without the presence of anti-D alloantibodies at the beginning of pregnancy were examined. Always it was a singleton pregnancy, RhD blood group of the pregnant women was assessed in the 1st trimester of pregnancy, RhD status of the fetus was assessed after delivery. Screening for irregular antierythrocyte antibodies was performed in all women in the 1st trimester of pregnancy, at 28-32 weeks gestation, immediately prior to delivery at 38-42 weeks gestation. Screening for irregular antierythrocyte antibodies was performed also at 6 months following delivery in all cases of positive antibodies before delivery. Antibody screening was performed using the indirect antiglobulin (LISS/NAT) and enzyme (papain) test with their subsequent identification using a panel of reference erythrocytes by column agglutination method Dia-Med. After delivery, the volume of fetomaternal hemorrhage was assessed in all RhD negative women and RhD alloimmunization prophylaxis was performed by administering the necessary IgG anti-D dose; none of the women were administered IgG anti-D antepartally.

RESULTS

During screening for irregular antierythrocyte antibodies at 28-32 weeks gestation, anti-D alloantibodies were diagnosed in **0.2%** of the women (2/906); immediately prior to the delivery at 38-42 weeks gestation, anti-D alloantibodies were diagnosed in **2.3%** of the women (21/906) and repeatedly even at 6 months following delivery (21/157). In 82.7% of the women (749/906), examination at 6 months following delivery was not performed, therefore in these women spontaneous antepartal RhD alloimmunization cannot reliably be ruled out. Alloimmunization may not be diagnosed yet at term of delivery. If anti-D alloantibodies were not present prior to the delivery, these women were all administered IgG anti-D in a dose of at least **125 µg** after delivery.

CONCLUSION

In RhD negative women with an RhD positive fetus, the incidence of spontaneous antepartal RhD alloimmunization was at least 2.0%. Most cases may theoretically be prevented by prophylactic administration of **250 µg** of **IgG anti-D** to all **RhD negative women at 28 weeks gestation**.

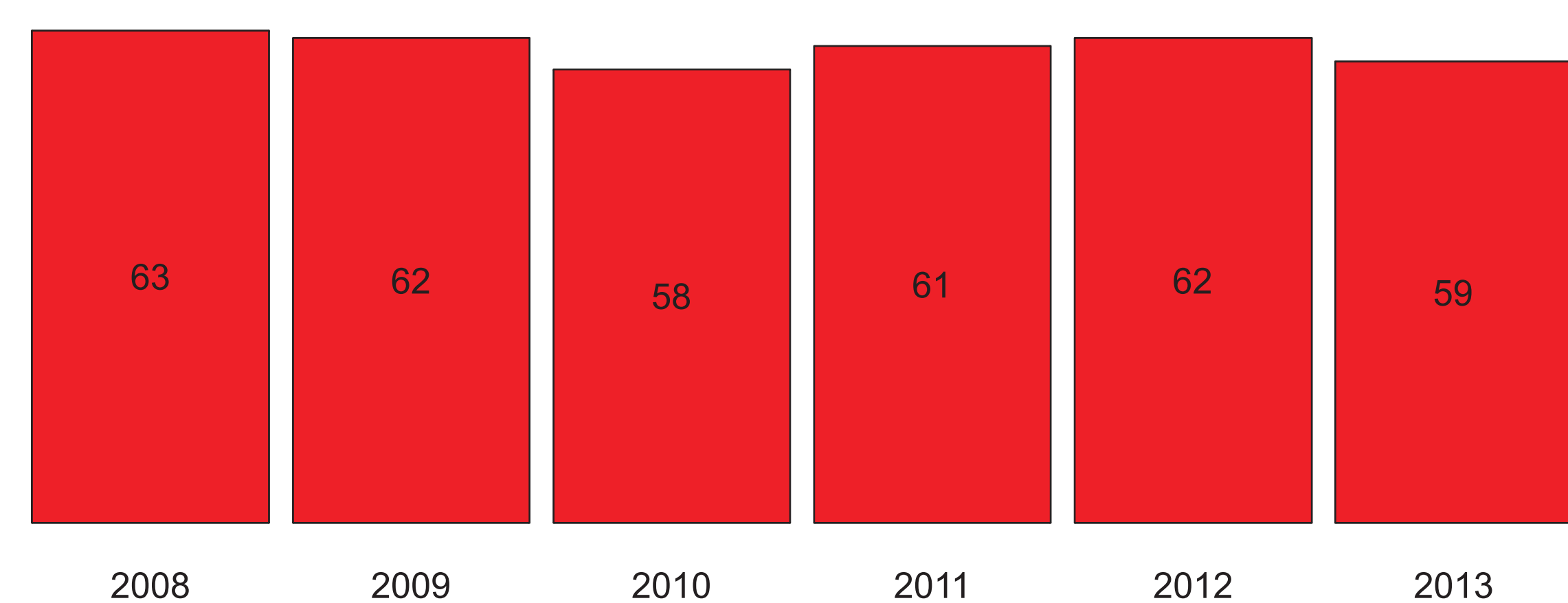
Spontaneous antepartal RhD alloimmunization in RhD negative pregnant women (n = 1486)

	total n
RhD negative pregnant women	1486
negative red blood cell antibodies screening in 1st trimester	1486
IgG anti-D was not administered antepartally	
anti-D alloantibodies screening at 28-32 week (positive/negative)	2 / 1484
anti-D alloantibodies screening just before delivery (positive/negative)	21 / 1465
delivery of an RhD positive child at 38-42 week	906 61%
IgG anti-D was administered according to FMH	
red blood cell antibodies screening 6 month after delivery*	157 17%
red blood cell antibodies screening 6 month after delivery (positive/negative)	21 / 136

incidence

2.3%

Delivery of an RhD positive child incidence in RhD negative pregnant women (%)



*screening was performed in all cases of positive antibodies anti-D before delivery