Background
Despite antenatal and postpartum prophylaxis with anti-D immunoglobulin (Ig), sensitisation to D antigen is still occurring. SHOT data show that anti-D Ig is missed or administered late in many women (754 in last 3 years).

Aim
To improve understanding of this continuing problem, in 2012 SHOT began a prospective study of women with immune anti-D detected for the first time in the current (index) pregnancy. More than 99% of UK hospitals submit reports to SHOT so the results will reflect UK practice.

Method
Reporters are asked to provide data on booking weight, management of potentially sensitising events (PSE), administration of routine antenatal anti-D Ig prophylaxis (RAADP) both in the index pregnancy and the pregnancy immediately preceding the index pregnancy (if applicable). By December 2014 (32 months) 66 cases had been registered, 16 in women with no previous pregnancy (NPP) and 50 in women with previous pregnancies (PP).

Number of reports of anti-D immunisation by year

Details of previous pregnancies carried to term n=43
- 6 women were obese, out of 29 cases with information on booking weight.
- 11 cases did not receive RAADP. Reasons: Learning difficulties, concealed pregnancy, needle phobic, prior to RAADP introduction, delivered abroad (3), no reason given (4).
- 9 PSE reported (5 antepartum haemorrhages - APH, 3 falls and 1 external cephalic rotation) of which 5 were not managed correctly (3 APH cases did not receive anti-D Ig, one APH at 26 weeks did not have Kleihauer test, one woman failed to report her fall).
- Post partum prophylaxis- 31 cases had Kleihauer test performed and appropriate dose of anti-D Ig given, including 4 cases requiring higher dose, 3 cases received no anti-D Ig (2 from overseas and one case with learning difficulties, 2 cases received incorrect dose (1 dose of 250iu, 1 dose given late), 5 cases had no information on post partum anti-D Ig and 2 cases had D negative babies.)

Anti-D detected at booking of index pregnancy, n=26
Details of the preceding pregnancy provides “cleaner” information on potential causes of immunisation:

Results-cases with no previous pregnancy n=16
- In 7 cases anti-D was detected before RAADP administration but in only 3 of these women were prior PSE documented. In 2 of these 3 PSE cases the women did not receive prophylactic anti-D Ig (in one case the event was not notified by the woman, in the other medical management was incorrect).
- In 9 cases immune anti-D was detected later in pregnancy (after 36 weeks) when RAADP had been given. Two of these 9 cases had grossly elevated BMI. In two cases PSE had occurred earlier in the pregnancy but had been correctly managed.

Results-cases with previous pregnancy n=50
- In 26 cases (52%) anti-D was detected at booking, indicating that immunisation had occurred prior to the current pregnancy (see table).
- In 17 cases (34%) anti-D was detected during the current pregnancy but after booking.
- 5 cases had anti-D detected at term.
- 2 cases were not pregnant at the time of anti-D detection but had had a previous pregnancy which was used to provide data.

Current prophylactic anti-D Ig regimens may need to be revised in the light of emerging data.
In 7 cases with no previous pregnancy, anti-D was detected before 28 weeks, and in 8 cases the previous pregnancy was “ideally” managed, raising concerns about the efficacy of current prophylactic anti-D Ig regimens. Continuing data collection will provide importance evidence on which to base future guidance.

Conclusions
Deficiencies in management of PSE indicate inadequate knowledge among healthcare professionals (medical, midwifery, laboratory) who must maintain up to date knowledge (Resource-Learn Blood Transfusion e-learning programme – anti-D modules).
D negative women must receive information at an early stage of pregnancy to ensure they seek medical advice after potentially sensitising events and are empowered to question their management.

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