

Lab Matters 08.07.2015

Mrs Maggi Webb
Blood Transfusion Manager
North Devon District Hospital



Alloantibodies and pregnancy

Healthy baby



Baby with severe jaundice



ADAM

Northern Devon Healthcare **NHS**
NHS Trust

Incorporating community services in Exeter, East and Mid Devon

Alloantibodies and pregnancy



Alloantibodies and pregnancy

- BCSH guidelines 2006
- ABO and D typing
- Red cell antibody screening/identification
 - Screening cells C,c,D,E,e,K,k,Fy^a,Fy^b,Jk^a,Jk^b,M,N,S,s,Le^a
 - Homozygous expression of Rh, Fy, Jk, S antigens
- Follow up tests
- Main recommendations

Alloantibodies and pregnancy

- Sample labelling
- ABO and D grouping
- Antibody screens
- Timing of tests

(early in pregnancy and again at 28/40)

- Labs to keep records of anti-D administration
- FMU referrals

Alloantibodies and pregnancy

- Antibody card
- Post delivery testing of babies
- Regular audit of practice

Alloantibodies and pregnancy

- Clinically significant antibodies (IgG)
 - Anti-D
 - Anti-c
 - Anti-K
 - Anti-C
 - Anti-E
 - Anti-Fy^a
 - Anti-Jk^a
 - Other antibodies

Alloantibodies and pregnancy

- Anti-D+C specificity

- Possible anti-G

demonstrated by disproportionately high titres of anti-C

- **ALWAYS** refer to reference lab as patients with anti-G are still eligible for RAADP and post delivery anti-D Ig

Alloantibodies and pregnancy

- Anti-D quantification (NIBSC 2003)
 - Differentiation between immune and prophylactic anti-D
 - Test every 4 weeks to 28/40 then
 - Test every 2 weeks to delivery
- | | |
|-----------|------------------------------|
| <4iu/ml | HDN unlikely |
| 4-15iu/ml | Moderate risk of HDN |
| >15iu/ml | High risk of hydrops fetalis |

Alloantibodies and pregnancy

- Techniques

 - CAT

 - Capture

 - Tube

- Paternal Testing

- Fetal genotyping

- Referral to NHSBT

Alloantibodies and pregnancy

- Anti-c quantification (NIBSC 2003)
- Test every 4 weeks to 28/40 then
- Test every 2 weeks to delivery

<7.5iu/ml

Continue to monitor

7.5-20iu/ml

Risk of moderate HDN

>20iu/ml

Risk of severe HDN

Alloantibodies and pregnancy

- Anti-K titration
- Anti-K often present as a result of previous transfusion
- If paternal sample K Negative
- Severity not correlated with antibody titre
- Affected pregnancies usually titre of 32 +

Alloantibodies and pregnancy

- Other antibodies
- Many other specificities
- Repeat testing at 28/40
- No further testing recommended
- Medical decision regarding women with hx of HDN

Alloantibodies and pregnancy

Prophylactic anti-D



Alloantibodies and pregnancy

- Routine ante-natal Anti-D prophylaxis (RAADP)
 - 1500iu at 28/40 gestation
- OR
- 500iu at 28/40 and again at 34/40

Alloantibodies and pregnancy

- Any sensitising event after 12/40 gestation regardless of whether RAADP has been given or is due to be given
- <12 weeks no anti-D is required unless surgical intervention
- Between 12-20 weeks give 250iu
- >20 weeks perform Kleihauer (or flow) and give at least 500iu

Alloantibodies and pregnancy

A CAUTIONARY TALE

Alloantibodies and pregnancy

- Result at booking
- PAD issued for 28/40
- Result at 28/40
- rr test
- Delivery
- Changes made

Alloantibodies and pregnancy

- Always check with midwives
- rr screening cells
- BMS band 6 or above to check results
- General paranoia