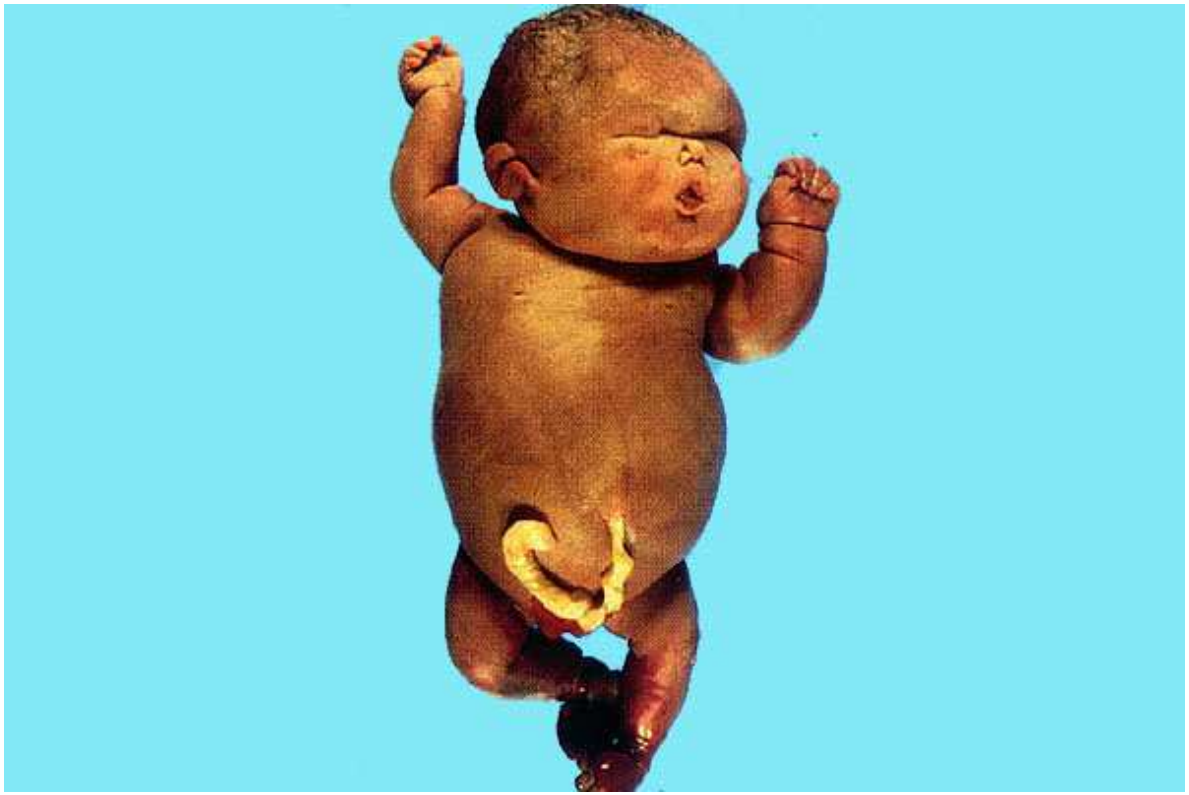
Lab Matters 21.06.2017

Mrs Maggi Webb
Blood Transfusion Manager
North Devon District Hospital

Northern Devon Healthcare NHS
NHS Trust

Alloantibodies and pregnancy

Alloantibodies and pregnancy



Northern Devon Healthcare NHS
NHS Trust

Alloantibodies and pregnancy

- BCSH guidelines 2016
- 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

Alloantibodies and pregnancy

MAIN RECOMMENDATIONS

- 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

Alloantibodies and pregnancy

MAIN RECOMMENDATIONS

- FMU referrals
- Antibody Card
- Post delivery testing of babies
- Regular audit of practice

- Clinically significant antibodies (IgG)
  - Anti-D
  - Anti-c
  - Anti-K
  - Anti-C
  - Anti-E
  - Anti-Fya
  - Anti-Jka
  - Other antibodies

Alloantibodies and pregnancy

- Anti-D+C specificity
- Possible anti-G

Demonstrated by disproportionately high titres of anti-C

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

Alloantibodies and pregnancy

- Techniques

  CAT

  Capture

  Tube
- Paternal testing
- Fetal genotyping
- Referral to reference laboratory

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

- 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
- Severity not correlated with antibody titre
- Affected pregnancies usually titre of 32+
- Paternal sample K negative

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

Northern Devon Healthcare NHS
NHS Trust

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

- BCSH guidelines 2013

Administration of anti-D immunoglobulin for the prevention of HDFN

- NICE guideline 2008

Routine antenatal anti-D prophylaxis for women who are rhesus D negative

- RCOG guidelines 2011 (Archived)

The use of Anti-D for Rhesus (D) prophylaxis

Alloantibodies and pregnancy

- ffDNA testing
- 16/40
- Results dictate issue of RAADP

Alloantibodies and pregnancy

Potentially sensitising events

- Amniocentesis, chorionic villus biopsy and cordocentesis
- Ante-partum haemorrhage/vaginal bleeding in pregnancy
- External cephalic version
- Fall or abdominal trauma
- Ectopic pregnancy
- Evacuation of molar pregnancy
- Intrauterine death and stillbirth
- In utero therapeutic interventions (transfusion, surgery, insertion of shunts, laser)
- Miscarriage, threatened miscarriage
- Therapeutic termination of pregnancy
- Delivery – normal, instrumental or Caesarean section
- Intraoperative cell salvage

Alloantibodies and pregnancy

- Miscarriage or painless PV bleeding at <12 weeks, no anti-D required unless surgical intervention
- T.O.P./Ectopic pregnancy/Molar pregnancy need PAD
- Any sensitising event after 12/40 gestation

regardless of whether RAADP has been given or is due to be given

- Guidelines say at least 250iu but thanks to our “friends” at BPL……
- Between 12 – 20 weeks give 500iu
- >20 weeks perform Kleihauer (or flow) and give at least 500iu

Alloantibodies and pregnancy

A CAUTIONARY TALE

Northern Devon Healthcare NHS
NHS Trust

Alloantibodies and pregnancy

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

Alloantibodies and pregnancy

CHANGES MADE

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