Follow-up of anti-D in pregnancy

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Anti-D - risks of misinterpretation in pregnancy

**Immune anti-D**

- Immune anti-D wrongly assumed to be passive
  - Pregnancy not monitored appropriately
  - Risk of missing opportunity for interventions to limit HDFN

**Passive anti-D Ig**

- Passive anti-D Ig wrongly assumed to be immune
  - Anti-D Ig prophylaxis not given
  - Risk of sensitisation to the D antigen and of HDFN

Serologically indistinguishable
Dependent on technology, automation or manual interpretation, cells used... etc.
Decisions made based on clinical history and IU/mL anti-D present as determined by CFA quantitation or a technique validated using large numbers of samples of known concentration, giving a result expressed in or easily converted to IU/mL anti-D.
Questionnaire with 18E7 — July 2018

BSH guidelines being followed?
Alternative strategies?
Reasons?
Approach to G+S requests in pregnancy?

150 responses, with 127 suitable for analysis
Å113 UK
Å14 RoI
Anti-D detected before 28 weeks

Anti-D is detected in pregnancy **before 28 weeks**, would an initial anti-D quantification by Continuous venous Analysis (CFA) be undertaken?

Yes, always

Sometimes; only if there is no evidence of anti-D Ig being administered in this pregnancy

Sometimes; decision to quantify is made based on reaction strength

Sometimes; decision to quantify is made based on a titration result

No

Other (please specify)

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<td>51 (40%)</td>
<td>59</td>
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Includes 7 refer to blood services

One has validated titration method

History and antibody strength (2 semi-quant)

Quant unless SCR days before anti-D
45 answers from labs that do not always send for CFA, suggesting many more use reaction strength / titration in decision making...

Only 7/45 stated that they had validated the method
- 3 vs. NIBSC reference preparation
- 1 MSc project to compare reaction 1:8 dilution vs. $R_1R_1$ cells to quant (<0.13)
- 1 review of collective data (reference centre)
- 1 parallel testing vs. IU quant results
- 1 ‘reaction strength in IAT panel’
Anti-D detected before 28 weeks

- Anti-D detected before 28 weeks quantified and followed up as immune anti-D until no longer detectable

- If immune anti-D, there is a high risk that it could reach dangerous levels in this pregnancy

92% followed up as per guidelines ....?once initial decision made that anti-D might be immune
Anti-D first detected after 28 weeks

If anti-D is first detected in pregnancy after 28 weeks (excluding immediately before delivery), would an initial anti-D quantification by CFA be undertaken?

- Yes always
- Sometimes; only if there is no evidence of anti-D Ig being administered in this pregnancy
- Sometimes; decision to quantify made based on reaction strength
- Sometimes; decision to quantify made based on a titration result
- No
- Other (please specify)
Anti-D first detected at or after 28 weeks

- Anti-D detected after 28 weeks quantified and decision made on result in IU/mL
- Anti-D detected immediately prior to delivery, e.g. in G+S samples for C section – no need to quantify, but monitor the baby
- Lower, but still significant risk of an immune anti-D reaching a dangerous level in this pregnancy

85% followed up as per guidelines... ? once initial decision made that anti-D might be immune
Summary of free text comments (52)

Case by case assessment
Consider both history and reaction strength
Decision making based on 2+ reaction
Look at in-house results for a relative increase in titre
TAT for quant results – almost up to next sample if following guidelines
Reliance on blood services for decision making
Guidelines confusing
Guidelines helpful
Follow BSH guidelines (but it’s costing us a fortune!)
G+S requests after 28 weeks

6. Approximately what proportion of samples for group and antibody screen received from D negative women (after RAADP has been administered at 28 weeks) would you consider to be clinically necessary?

- <10% 32
- 10-25% 12
- 26-50% 6
- 51-75% 12
- 76-100% 47

Group and antibody screen will only be performed if specifically requested. If samples are sent as per guidelines these are usually sent straight to the BTS only if they fit clinical criteria and sample timing guidelines. Samples for Quantification or Titration in addition to Booking and 28 weeks are sent at 28 weeks and after we only perform an antibody screen. All grouped but screen only performed if blood may be required on pt if patient already has a valid group & save taken on the same day test G+S if requested, but not if only FMH asked for not same day duplicates excluding first 2 samples sometimes refer straight to NHSBT if for titre or quantification. If RAADP received and patient has no PSE’s antibody screen is not performed at delivery only if requested.
Conclusions

- Guideline in place to prevent sensitisation
- Not always being followed with respect to initial testing by CFA
- Validated alternative methods, e.g. titre score would be useful
- Issues with complexity, workload, cost, inconvenience for patients
- Lots of unnecessary G+S samples received after 28 weeks
- Guidelines are being reviewed... BSH and RCOG together
- Will focus on clinical risks and take all lab comments into account