Oxford University Hospitals NHS
NHS Foundation Trust

Antenatal cFFDNA typing – learning from experience

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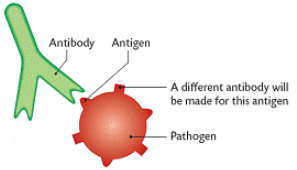
Back ground

- The use of non invasive cell free Fetal DNA testing to determine the RhD type of the baby has been available from NHSBT since Jan 2016
- The OUH was an early implementer going live in Feb 2016
- The service within the Trust has been run from the laboratory rather then being midwife led



Our process

- Laboratory IT used to identify Antenatal booking samples for patients who are RhD neg
- Patient sent a letter, information leaflet and semi completed request card
- Sample bled at 16 week appointment and sent to the Lab
- Lab co-ordinate sending the sample to NHSBT and ensuring the results are available on EPR

Some figures

- Feb 2016- Aug 2017
- 1790 letters sent to patients
- 1553 samples sent for testing (93% take up)
- 519 babies were predicted to be RhD neg
- 52 inconclusive results (all confirmed to be RhD pos)

Unexpected results?

- 4 samples predicted a RhD pos baby but the cord group was RhD neg!
- We did further cord testing on 3 of these
  - All 3 showed a weak expression of the D antigen
  - So were actually Rh D pos
- Without cFFDNA typing we would have called these cord sample RhD neg and the mum may not have received anti-D

Issues

- We have learnt a number of things over the past year
- GP phlebotomy services require constant reminding about PPID and are the biggest area for sample mislabelling
- Antenatal patients frequently get married and change their name – adds the complexity of record keeping

Other things learnt

- Having a system which allows you to immediately see where a patient is on the pathway is useful
  - We use a filemaker standalone database and import information from the LIMS and EPR
  - This allows us to print letters and address labels so reducing manual input!

More!

- Cord samples get missed
  - Not an issue related to the cFFDNA service
    - We've examples of where this happened previously
  - We've included a reminder on the cFFDNA report which is visible on EPR
- The weak D expression can be misleading

A few more!

- We've had a few patient ask for proph D even when their baby is predicted to be RhD neg
  - We hadn't predicted this
  - Had to quickly decide if we would agree to this
- Don't forget to reduce your order for prophylactic anti-D
  - We had too much for 8 months!

Finally

- Seen a 35% reduction in the cost of anti-D (including a price raise)
- We agreed with obstetrics that we would run the service if we could keep the cost savings
- We used this in employ a band 3 – who does all the admin
- We recommend this approach – its worked well for us

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