RCOG – Update of GBS Guideline July 2013

In July 2012, the Royal College of Obstetricians & Gynaecologists released their updated Greentop guideline on the prevention of early-onset group B Streptococcal disease (No 36).

Few changes have been made to the first edition (published in 2003), despite a lengthy consultation process to which GBSS and others contributed. They still say that routine bacteriological screening of all pregnant women for antenatal GBS carriage is not recommended (Recommendation Grade D, evidence level 4: expert opinion). Given the wealth of evidence from other countries which screen and have seen their incidence fall (while the UK’s incidence is rising), this is very disappointing.

Improvements
There are a number of improvements in the 2012 edition, mostly clarifications, which will help those following the guidelines:

- **Women with GBS found in their urine or a vaginal swab during the current pregnancy should be offered intrapartum antibiotic prophylaxis** (IAP or intravenous antibiotics in labour as preventative medicine against early-onset GBS infection in the baby) - the first guideline had said “consider” rather than offer.

- **There is clarity about what should happen with a woman known to carry GBS experiences spontaneous rupture of membranes at term** (immediate induction of labour plus IAP offered).

- **Women with a temperature of more than 38°C in labour should be offered intravenous broad-spectrum antibiotics in labour which include those which cover the GBS risk** (the earlier guideline had not made this clear).

- **Oral antibiotics are not recommended in labour against GBS infection in the newborn baby.**

- **There is no evidence that vaginal cleansing in labour will reduce the risk of GBS infection in the newborn baby.**

- **Well infants without clinical signs of infection but with other risk factors for GBS infection should be observed closely for such signs over the first 24 hours of birth** – previously no specific guidance was given, apart from a statement that most early onset GBS (EOGBS) infections present within the first 12 hours of life. EOGBS infections are usually classified as those which occur in the first 6 days of life.

- **Appendix 1 is useful** in showing that, if a woman has a positive GBS swab in the current pregnancy, the risk of EOGBS disease is reduced from one in 434 where IAP is not given, to one in 2170 if it is. Moreover, the risk of death from this cause is reduced from one in 4000 to one in 20,000. Given these figures from the RCOG, it seems incomprehensible that they believe there to be insufficient evidence for taking the swab in the first place.

Disappointments
There are areas which seem to have become less clear or in our view have taken a retrograde step. The guideline
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- States that routine bacteriological screening of all pregnant women for antenatal GBS carriage is not recommended (Recommendation Grade D, evidence level 4: expert opinion). Given the wealth of evidence from other countries which have introduced screening and seen their incidence fall (while the UK’s incidence is rising), this is very disappointing.

- Treats unknown GBS carriage as no GBS carriage. In situations where one or more recognised risk factors for EOGBS infection are present (prematurity and prolonged rupture of membranes), the updated guideline treats unknown GBS status the same as negative GBS status. This will not always be true and so Mums may have multiple risk factors with no recommended action from RCOG. All too often though, waiting until labour starts to give intravenous antibiotics (as per the RCOG updated guideline) will be too late to prevent infection and preterm babies who develop GBS infection are at significantly higher risk of poor outcomes, particularly at the earlier gestations. The 2003 guideline gave a table showing estimated risks for babies born in different situations and said that “Clinicians should use the table above to inform discussions with women regarding the use of IAP in the presence of known risk factors including incidental carriage. The argument for prophylaxis becomes stronger in the presence of two or more risk factors.” Inexplicably this statement hasn’t made it to the 2012 update.

- Recommends no IAP should be offered for mothers in preterm labour unless they are known to carry GBS. In the table at Appendix 1 the risk of developing EOGBS infection for a preterm baby (less than 37 weeks of pregnancy) is estimated as being a 1:435 risk, very similar to the risk of a baby born to a mother carrying GBS in the current pregnancy (1:434). It is illogical that IAP is not recommended although the risk is similar to that of a risk factor for which IAP should be offered (known carriage) plus up to 30% of these women will unknowingly be carrying GBS – therefore multiple risk factors will be present, multiplying the risk of EOGBS infection.

- Makes no recommendation for women with prolonged rupture of membranes at any gestation, although the table at Appendix 1 estimates the risk of EOGBS infection if no antibiotics are given for women with rupture of membranes >18 hours at term as being 1:556. This is illogical – up to 30% of these women will unknowingly be carrying GBS so multiple risk factors are present, increasing the risk of EOGBS infection significantly.

- Recommends that no intravenous antibiotics should be offered to mothers with rupture of membranes before labour starts (term or preterm) unless the Mum is known to carry GBS (and then only once labour starts). Again, this is illogical – up to 30% of these women will unknowingly be carrying GBS and rupture of membranes of >18 hours is an independent risk factor for EOGBS infection, as is prematurity. A recommendation should have been made for offering IAP since the risk of EOGBS infection is significantly raised.

- Fails to mention the different tests used for detecting GBS carriage. No mention is made of the fact that the test most NHS maternity units currently offer for GBS colonisation is not sensitive, with up to half of the results which should be positive come back negative (Phillips EH, Palermo DA, Robinson A. Enhanced antenatal detection of group B Streptococcus colonization. Obstet Gynecol 1995;85:437-9. Platt MW, McLaughlin JC, Gilson GJ, Wellhoner MF, Nims LJ. Increased recovery of group B Streptococcus by the inclusion of rectal culturing and enrichment. Diagn Microbiol Infect Dis 1995;21:65–8. Baker CJ, Clark DJ, Barrett FF. Selective
broth medium for isolation of group B streptococci. Appl Microbiol 1973;26:884-5. Altaie SS, Dryja D. Detection of group B Streptococcus. Comparison of solid and liquid culture media with and without selective antibiotics. Diagn Microbiol Infect Dis 1994;18:141-4). This omission is misleading; clarification of the different test methods would have been helpful. We regularly hear from women who have been told by their health professionals that an HVS is just as good as any other test for GBS. The ‘gold standard’ Enriched Culture Medium (ECM) method should have been explained – for reliable detection of GBS colonisation, low vaginal and rectal swabs are required which are then cultured using enriched media and that this is not currently widely available within the NHS. It should state that the Health Protection Agency’s BS8 describes this methodology and a number of private providers offer these tests (for current providers, see www.gbss.org.uk/test).

'Facts' which need challenging

There are also a number of the ‘facts’ stated in the update which need challenging:

- **RCOG** says "the incidence of EOGBS disease in the absence of systematic screening... is similar to that seen in the USA after universal screening and intra-partum antibiotic prophylaxis". This is not true – in the USA in 2011 the incidence of EOGBS infection was 0.26 cases per 1,000 live births (ABCs Report: Group B Streptococcus, 2011 http://www.cdc.gov/abcs/reports-findings/surreports/gbs11.html); in England, Wales and Northern Ireland, the incidence voluntarily reported to the Health Protection Agency for early-onset GBS infection was 0.38 per 1,000 live births, 46% higher than the incidence in the US (HPA. Pyogenic and non-pyogenic streptococcal bacteraemia, England, Wales and Northern Ireland: 2011. Health Protection Report [serial online] 2012; 6(46): Bacteraemia http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1317136996075).  

- **RCOG** makes strong play of the suggestion that "the Cochrane review concluded that whilst IAP to colonised mothers reduces the incidence of EOGBS disease, it has not been shown to reduce all causes of mortality, or GBS related mortality". However, the Cochrane review (Ohlsson A, Shah VS. Intrapartum antibiotics for known maternal Group B streptococcal colonization. Cochrane Database of Systematic Reviews 2013, Issue 1. Art. No.: CD007467. DOI: 10.1002/14651858.CD007467.pub3. http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD007467.pub3/pdf) also said "a review of sepsis related neonatal mortality in the USA showed a decline in mortality in the first week after birth, coinciding with the introduction of intra-partum antibiotic prophylaxis". These two statements are contradictory. Furthermore, the Cochrane review reported only four trials involving 852 women, which is far too small to show any significant reduction in mortality (although it did report a 91% reduction in EOGBS disease and an 88% reduction in probable EOGBS disease). Finally, the Cochrane review said that while there is a lack of evidence from well designed and conducted trials to recommend intra-partum antibiotic prophylaxis, “the opportunity to conduct such trials has likely been lost”. So if one waits for such evidence to materialise, screening will never be introduced - even when it is blindingly obvious that it should be.

- **RCOG** says in paragraph 4.1 that "until it is clear... that the benefits are cost-effective". Why have they not referred to the studies of cost effectiveness that have shown that current practice is the least cost-effective of all the options? They don’t even mention the Daniels, Kaambwa or Colbourn papers (Intrapartum tests for group B streptococcus: accuracy and acceptability of screening. Daniels J, Gray J, Pattison H, Gray R, Hills R, Khan K; on behalf of the GBS Collaborative Group. BJOG. 2010 Oct 13. Cost-effectiveness of rapid tests and other existing strategies for screening and management of early-onset group B streptococcus

- RCOG says in paragraph 5.2 they say that IAP should be offered if GBS is detected on a vaginal swab in the current pregnancy. True, though this begs the question why, if this is recommended, should women who are not lucky enough to have a swab taken for another reason be deprived of the benefit. The only logical position if one does not agree with screening is to ignore vaginal carriage of group B strep entirely if it is found by chance. And as far as we are aware, no-one is suggesting that.

- RCOG’s paragraph 5.4 says that immediate induction of labour and IAP should be offered to all women with prelabour rupture of membranes at 37 weeks of gestation or more if the woman is a GBS carrier. This highlights again the illogicality of the current approach. They recommend immediate induction of labour and IAP if the woman is known to be a carrier, but why suggest this if they think that knowing whether the woman is a carrier or not is unnecessary?

**Conclusion**

There are some improvements in the 2012 update, though tweaks and clarifications rather than fundamental changes in guidance. This is disappointing. We at GBSS remain convinced that the best way to prevent more EOGBS infection is by informing all pregnant women about GBS and offering them a sensitive test late in pregnancy, with IAP offered to women whose babies are at higher risk.

The evidence from countries that screen for GBS shows a reduced incidence of EOGBS infection - the UK incidence since 2003 when the RCOG’s risk based prevention guideline was introduced has risen (in the graph below, the blue section is EOGBS infection).

We had hoped the RCOG would review the evidence and realise that their strategy isn’t working and it’s time to change. Sadly, they didn’t.