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REAL TIME PCR ASSAY FOR DETERMINATION OF GBS-STATUS IN WOMEN WITH OBSTETRIC RISK FACTORS CAN DECREASE THE USE OF INTRAPARTUM ANTIBIOTIC PROPHYLAXIS

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Background: In Sweden, guidelines for prevention of neonatal early onset group B streptococcus infection (EOGBS) are based on obstetric risk factors. Intrapartum antibiotic prophylaxis (IAP) is given if one risk factor is present. Hence 20% of women in labour receive IAP. Some 30% of pregnant women in Sweden are GBS carriers. In theory, with a reliable, rapid bed-side determination of GBS status in women in labour the number who need treatment with IAP could be reduced by 2/3, without compromising the efficacy of the risk based prophylaxis strategy.

Methods: Women with one of the risk factors (preterm 34^0 - 36^6 w or ruptured membranes $\geq$ 18 h) could participate. A recto-vaginal double specimen for PCR assay and conventional culture was obtained. The PCR assay (GeneXpert, Diagen, Sweden) with a response time of 45-60 minutes, was processed by the midwife. IAP was given when the PCR assay was positive or inconclusive.

Result: 94 women were included. When the PCR-assay was conclusive, sensitivity and specificity were 95 and 99% respectively. In 14 cases (15%) the PCR assay was not valid. In 61 cases IAP was not given. One of these was falsely negative in the PCR assay.

Conclusion: Bedside real time PCR for rapid determination of GBS status in women in labour has high sensitivity and specificity in the hands of personnel in the labour ward, provided only valid results are included. With a risk based prophylaxis strategy, the results of the PCR assay substantially reduced the need to give IAP.