Prenatal-onset GBS (POGBS) Disease as a Cause of Perinatal Morbidity and Mortality

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ABSTRACT

BACKGROUND

Intrauterine infection is increasingly recognized as a possibly preventable cause of stillbirth (SB). The objective of this review/article is to justify recognition of prenatal-onset group B streptococcal (POGBS) sepsis, distinct from early-onset (EO) and late-onset (LO) infections from group B streptococci (GBS) and other microorganisms.

RESULTS

1) Prenatal-onset GBS intrauterine infection has been previously described (Katz, Tuedela, Benirschke, others).
2) GBS is the commonest or among the commonest microorganisms isolated from normally “sterile” sites after passage through the vagina, within membranes, within placenta, cord blood, heart blood or spleen at autopsy.
3) GBS demonstrates pathophysiological virulence capacities which can explain:
   a) Intrauterine infection with intact fetal membranes
   b) Invasive fetal infection
   c) Lethal factors (toxins, NETs, others) leading to placental or fetal death
   d) Multiple studies/analysis demonstrate feasibility and practicability of ACTIVE GBS VACCINATION

CONCLUSIONS

1) GBS, similar to other “perinatal pathogens,” is an apparent cause of intrauterine infection (1° chorioamnionitis “CAM” or intraamniotic infection “IAI”) can cause SB and very early PTB and possibly LM
2) Intrauterine infection or prenatal-onset GBS may explain GBS selective culture-based antibiotic chemoprophylaxis (IAP)
3) Recognition of POGBS disease can allow renewed experimentation in order to further reduce risks of GBS perinatal disease including rapid “Point of Care” microbial testing as well as adjuvant VACCINATION or other novel strategies

RECOMMENDATIONS

1) Reconvene well-funded national study group to explore novel strategies to further reduce risk of GBS neonatal disease burden
2) These strategies can be separate or in combination with culture-guided IAP:
   3) VACCINATION
   4) Microecologic
   5) Clinical Strategies - screen UTI/ASB
   6) Further refine microbiologics screening, i.e., early in pregnancy, UTI/ASB, and in labor or after ROM
   7) Improve operational procedures to enhance efficacy of IAP

REFERENCES

Zaid EA. New Approaches to Preventive Diagnosing and treating neonatal sepsis. Paediatr Med 2012(10)00113