Closing the Brief Case: Too Beta To Be a "B"

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**CLOSING THE BRIEF CASE: TOO BETA TO BE A “B”**

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**KEYWORDS** Streptococcus pseudoporcinus, adverse obstetrical outcomes, beta-hemolytic streptococci, group B streptococci

**ANSWERS TO SELF-ASSESSMENT QUESTIONS**

1. Which of the following characteristics suggests that an isolate of Gram-positive cocci in short chains that is catalase negative and Lancefield group B antigen positive may be *Streptococcus pseudoporcinus*?

   A. A narrow zone of beta-hemolysis, esculin hydrolysis negativity, and hippurate positivity
   
   B. A narrow zone of beta-hemolysis, esculin hydrolysis positivity, and hippurate positivity
   
   C. A wide zone of beta-hemolysis, esculin hydrolysis positivity, and hippurate negativity
   
   D. A wide zone of beta-hemolysis, esculin hydrolysis negativity, and hippurate positivity

   **Answer:** C. Isolates that react with Lancefield group B antigen agglutination reagents and demonstrate a wide zone of beta-hemolysis should raise suspicion for *S. pseudoporcinus*. *S. pseudoporcinus* is esculin hydrolysis positive and hippurate negative. A CAMP test, if performed, is positive. Pyrrolidonyl arylamidase reactivity is varied and can be either positive or negative, depending on the strain.

2. What is the normal habitat for *Streptococcus pseudoporcinus* in humans?

   A. Vagina
   
   B. Skin
   
   C. Mouth
   
   D. Conjunctiva

   **Answer:** A. *S. pseudoporcinus* inhabits the genitourinary tracts of some women and has been recovered from 1.0 to 5.4% of vaginal-rectal specimens submitted for the detection of *S. agalactiae*.

3. *Streptococcus pseudoporcinus* is possibly associated with which of the following adverse obstetrical outcomes?

   A. Neural tube defects
   
   B. Neonatal sepsis
   
   C. Pregnancy-induced hypertension
   
   D. Premature rupture of fetal membranes and cervical insufficiency
Answer: D. Although there is not a definitive association, reports in the literature point to a possible connection between *S. pseudoporicinus* and premature delivery due to rupture of fetal membranes as well as cervical insufficiency.

**TAKE-HOME POINTS**

- *Streptococcus pseudoporicinus* can be recovered from vaginal-rectal specimens submitted for the detection of *Streptococcus agalactiae*.
- Although *S. pseudoporicinus* belongs to Lancefield antigen groups NG1, E, and P or may even be untypeable, isolates of *S. pseudoporicinus* often cross-react with Lancefield group B antigen agglutination reagents.
- Colonies of both *S. pseudoporicinus* and *S. agalactiae* are large (>0.5 mm) after 24 h of incubation, but *S. pseudoporicinus* has a wide zone of beta-hemolysis on sheep blood agar after overnight incubation compared to the narrow zone (slightly bigger than the colony formed) of subtle beta-hemolysis that is produced by most strains of *S. agalactiae*.
- Risk factors for vaginal-rectal colonization include black ethnic groups, recent *Trichomonas vaginalis* infection, primary or recurrent genital herpes simplex virus infection, bacterial vaginosis, obesity, and two or more male sexual partners during the 1 or 2 months since the last health clinic visit (i.e., increased numbers of sexual partners).
- Vaginal-rectal colonization may be associated with complications of pregnancy, including preterm rupture of fetal membranes and cervical insufficiency.