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Publication Only

Antimicrobials: Epidemiology of MRSA, VRE and other Gram-positives

Isolation of *Streptococcus agalactiae* in four different age groups of patients over a decade

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Objectives: *Streptococcus agalactiae* is the leading cause of early-onset neonatal sepsis in many parts of the world due to maternal-infant transmission. However, the same pathogen represents an important cause of genital tract infections in children and adults. This study aimed to evaluate the prevalence of *S. agalactiae* when isolated in the vaginal secretions of different groups of patients presenting with vulvovaginitis.

Methods: A total of 10,672 vaginal cultures from different patients presenting at the outpatient clinic of obstetrics and gynecology of our hospital during January 2003 to November 2013 were studied. Cases were divided into 4 groups: 960 samples from girls 2-17 years old, 5,015 samples from reproductive age (18-40 years old) non-pregnant women, 2,242 samples from pregnant women and 2,455 postmenopausal women (50-65 years old). All women enrolled presented with signs and symptoms of vulvovaginitis (vulvovaginal irritation, itching and/or vaginal discharge) on physical examination. Samples were inoculated onto appropriate media and incubated under standard aerobic conditions for at least 24 hours. Wet mount and Gram stain preparations were examined to investigate the presence of leukocytes and the type of microorganisms present. The identification of isolated strains and their susceptibility test to antibiotics were carried out with the API System and the automated system VITEK 2 (BioMerieux, Marcy l'Etoile, France).

Results: From the total of 10,672 patients, 4,877 yielded positive cultures: 654 girls, 2,160 non-pregnant reproductive age women, 928 pregnant women and 1,135 postmenopausal women. *S. agalactiae* was isolated from 261 (5.6%) patients with positive cultures, specifically in 21/654 (3.2%) of girls, in 130/2,160 (6.0%) of non-pregnant reproductive age women, from 55/928 (5.9%) of pregnant women and 55/1,135 (4.8 %) of postmenopausal women. Furthermore, the resistance of *S. agalactiae* to different antimicrobials was studied, comparing the results obtained during 2003-2008 and 2009-2013. A significant decrease in the susceptibility to clindamycin and erythromycin was observed during the last five years.

Conclusion: The present study showed that among the four groups studied, *S. agalactiae* was more frequently isolated from reproductive age women. Strict adherence to a screening strategy for pregnant women at 35 to 37 weeks' gestation is important to identify the mother-infant pairs at risk of vertical transmission due to maternal genital carriage. Obviously, neonatal group B streptococcal infection can and has been reduced around the world by routine screening and use of antibiotics. The increased resistance to clindamycin and erythromycin observed during the last five years is a serious matter of concern to clinicians when faced with penicillin-allergic women in need of intrapartum prophylaxis.