

Evaluation of the StrepB Select Agar for the Detection of Group B Streptococci (GBS) from Vaginal and Recto-vaginal Specimens 18th ECCMID #1388

Background and objective: Current guidelines for the prevention of GBS perinatal disease are based on prenatal screening culture for recto-vaginal GBS colonization. Use of selective and differential media as Granada type agar (GRA) or ChromID StreptoB agar (SBID) improves the sensitivity and workload of these cultures. This study was conducted to evaluate the performances of the new StrepB Select Agar (SBS) Bio-Rad, for the selective growth of blue-turquoise colonies of GBS.

Methods: 500 genital swabs collected from pregnant and non-pregnant women. Each swab was homogenized in 2 ml of sterile saline and 50 microliter-aliquots were inoculated onto SBS, modified GRA (Becton Dickinson), SBID (bioMerieux) and blood agar with colistin-nalidixic acid (CNA), primary cultures. The remaining suspension was added to a selective enrichment Lim broth. After overnight incubation, aliquots of Lim broth were inoculated onto SBS, GRA, SBID and CNA. SBS and SBID were incubated in air, GRA anaerobically and CNA in air + 7% CO₂, at 35°C, 24 - 48 h. Positive and negative control strains (GBS; *E. faecalis*) were cultured with each run. Specific identification of colonies suggestive of GBS (light blue to dark blue-turquoise on SBS, light pink to red on SBID, beta-hemolytic on CNA) was performed; orange colonies on GRA were identified as GBS.

Results: GBS were recovered from 147 swabs (29.4 %): 111 from primary cultures and 139 after Lim enrichment, respectively from 103 and 134 on SBS, 90 and 123 on GRA, 93 and 124 on SBID, 76 and 113 on CNA. Overall sensitivities were 94.6% on SBS, 84.4% on GRA, 87.1% on SBID and 81.6% on CNA. Characteristic colonies of presumptive GBS were not always confirmed as GBS: 41 from primary cultures and 38 after Lim enrichment on SBS, 22 and 17 on SBID and 45 and 59 on CNA. Respectively the positive predictive values of presumptive GBS colonies were 71.5-77.9% (SBS), 80.9-87.9% (SBID) and 62.8-65.7% (CNA). At 48h incubation, presumptive GBS were easily observed on SBS, GRA and SBID even in low numbers.

Conclusions: 1) The highest sensitivity was observed for SBS, followed by these on SBID and GRA. 2) Due to lack of specificity, characteristic colonies on SBS as on SBID or CNA must be isolated to confirm their identification. 3) Presumptive GBS were easily observed on SBS, GRA and SBID. 4) SBS as SBID are incubated in air and do not require CO₂ or anaerobic conditions. 5) SBS, a new useful agar to recommend for GBS prenatal screening culture.