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Diagnostics, other than Molecular: Diagnostic/laboratory methods (other than molecular)

Using Thermo Scientific™ Brilliance™ GBS Agar, with and without Lim Broth enrichment, for the detection of group B streptococci from women undergoing GBS screening

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Objectives

A study was conducted to evaluate the use of direct plating of GBS screening swabs onto Thermo Scientific™ *Brilliance*™ GBS Agar (Thermo Fisher Scientific) versus pre-enrichment in Thermo Scientific™ LIM Broth (Thermo Fisher Scientific).

Methods

Four hundred and ninety nine swabs were directly plated onto *Brilliance* GBS Agar prior to enrichment in LIM Broth. After enrichment, the broth was then streaked onto another *Brilliance* GBS Agar plate. Presumptive GBS colonies observed on *Brilliance* GBS Agar were confirmed using Thermo Scientific™ Streptex™ Latex Group B (Thermo Fisher Scientific) and MALDI-TOF (Bruker).

Results

Brilliance GBS Agar detected more GBS when swabs were broth enriched prior to subculture compared to when swabs were directly plated onto *Brilliance* GBS Agar. Sensitivity of *Brilliance* GBS Agar was 99.0% when swabs were broth enriched and 97.4% when swabs were directly plated onto *Brilliance* GBS Agar. However, specificity of *Brilliance* GBS Agar was reduced when swabs were broth enriched prior to subculture compared to when swabs were directly plated onto *Brilliance* GBS Agar (94.0% and 96.7% respectively).

The number of non-target organisms observed growing on *Brilliance* GBS Agar was lower when swabs were directly inoculated onto the agar compared to when swabs were enriched prior to subculture, i.e. percentage inhibition of non-target organisms on *Brilliance* GBS Agar was higher (70.9%) when swabs were directly plated compared to when broth enriched (68.3%).

Conclusion

Brilliance GBS Agar was able to detect more GBS when swabs were enriched in LIM Broth prior to subculture onto the agar medium, although more false positive results were recorded. Sensitivity and specificity of *Brilliance* GBS Agar was high regardless of whether swabs were broth enriched prior to plating or not. Due to the selective nature of the plate, *Brilliance* GBS Agar also suppressed growth of non-target organisms.