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ePoster Viewing

STD and other genital infections

DEMONSTRATION OF EARLIER DETECTION OF SALMONELLA SPECIES FROM STOOL SAMPLES BY USING CHROMOGENIC MEDIA.

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Objectives: To critically assess three selective media for the isolation and discrimination of *Salmonella* spp. in stool samples from patients with diarrhea.

Methods: Stool samples ($n = 282$) from patients with diarrhea were cultured onto XLD (bioMérieux), *Brilliance* Salmonella (Oxoid) and ASAP medium (bioMérieux / AES). Approximately 0.5g or 0.5 ml of sample was suspended in 0.5 ml of saline (0.85 %). A 50 μ l aliquot of this suspension was then cultured on each of the three agar media and the remainder of the sample was inoculated into selenite broth. All plates (and selenite broth) were incubated for 18 hours in air at 37 \pm 0.5°C. Selenite broths were subcultured onto the same three media, which were then also incubated for 18 h. All plates were interpreted after 18 h of incubation and any suspect colonies resembling *Salmonella* were identified by Maldi-TOF mass spectrometry.

Results: Twenty nine isolates of *Salmonella* were recovered using a combination of all three media and all of these were recovered on *Brilliance* Salmonella and ASAP medium following enrichment of the samples in selenite broth. Twenty eight isolates were recovered on XLD after enrichment. Although there was little difference in the ability of the three media to recover *Salmonella* after enrichment, there were differences in performance after direct culture with 9 isolates, 13 isolates, and 14 isolates recovered on XLD, *Brilliance* Salmonella and ASAP respectively. The specificity of the three media were all comparable (96-98%) although the least number of false positive colonies were recovered on ASAP medium ($n = 12$) compared with *Brilliance* Salmonella ($n = 20$) and XLD ($n = 16$). On direct culture, ASAP medium recovered significantly more isolates of *Salmonella* spp. than XLD medium (McNemar's test; $P = 0.04$) whereas ASAP isolated only one additional isolate when compared to *Brilliance* Salmonella.

Conclusion: The UK Standard Method for isolation of *Salmonella* from stool samples recommends culture (pre and post enrichment in selenite broth) using XLD medium. Data from this study suggests that the use of chromogenic agars can result in earlier detection of *Salmonella* species from some samples, although enrichment in selenite broth remains essential. *Salmonella* appear as pink colonies on both chromogenic media and commensal bacteria are invariably non-coloured.