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Comparison of CPS ID 3 and CHROMagar Orientation chromogenic agars with standard biplate technique for culture of clinical urine samples.

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Abstract

BACKGROUND AND PURPOSE: Chromogenic agars have been developed to recognize frequently occurring microorganisms directly on primary cultures, thus reducing the daily workload in a clinical microbiology laboratory. We compare two chromogenic agars, CHROMagar Orientation (CO) and CPS ID 3 (CPS3), with routine media (biplate technique using trypticase soy blood agar and eosin methylene blue agar) for the isolation, enumeration and identification of organisms in urinary tract infection (UTI).

METHODS: The clinical significance of the urine samples was categorized as probable UTI, possible UTI, no UTI (negative), or contaminated according to the culture result. Discrepancy analysis with the categories of minor error, major error and very major error was used to compare the culture media.

RESULTS: Of 1386 urine specimens, the consistencies in clinical significance of CO and CPS3 to routine media were 90.7% and 89.8%, respectively. For the enumeration of microorganisms, 524, 514, and 521 clinically significant isolates were isolated on routine media, CO, and CPS3, respectively. Of the 524 significant isolates on routine media, results for 473 and 474 isolates agreed on CO and CPS3, respectively. Approximately 91.9% of Escherichia coli and 100.0% of Enterococcus spp. could be identified directly on CO media, while 97.5% of E. coli and 94.4% of Enterococcus spp. could be identified on CPS3 media.

CONCLUSION: The use of CO and CPS3 as single media is promising for clinical urine culture.

Publication Types, MeSH Terms, Substances

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