INTRODUCTION

CPS® ID3 is a new chromogenic medium for the diagnosis of urinary tract infections, enabling the enumeration of micro-organisms, the identification of Escherichia coli and Proteus, as well as the preliminary identification of Enterococci and the Klebsiella-Enterobacter-Serratia-Citrobacter group (KESC). CPS ID3 is an evolution of the CPS ID2 medium in terms of colour intensity for each enzymatic activity and of nutrient capacity for Gram-positive bacteria and yeasts.

The purpose of this study is to evaluate the compatibility between CPS ID3 and bioMerieux VITEK®2 identification and susceptibility reagents. Results are compared with those obtained with colonies isolated on CPS ID2, the previous formula, and a non-chromogenic medium, both being recommended as isolation medium before VITEK 2 testing.

RESULTS

When compared with CPS ID2 or the recommended medium, identifications obtained are not affected by isolation on CPS ID3 (Figure 4). The results show an agreement rate of 95% for ID-GNB, 81.7% for ID-GPC and 91.7% for ID-YST between CPS ID3 and CBA or SGC. CPS ID3 gives 96.7%, 83.3% and 98.3% of correct identifications (identifications to one choice or low discriminations) respectively on the different cards.

Concerning susceptibility test results, there is no statistically significant difference between MICs obtained on CPS ID3 and CBA (Figure 5). An agreement rate (±1 dilution) superior or equal to 90% is observed for all drugs. The rate of 82.6% obtained for the Benzylpenicillin on AST-P524 is close to the rate of 86.9% given by CPS ID2 and is 90% statistically equivalent (there is no trend to induce a higher susceptibility or resistance). Furthermore, for all antimicrobial agents, MIC deviation distributions show no significant tendency (Figure 6).

CONCLUSION

CPS ID3 is therefore fully compatible with bioMerieux VITEK®2 products for the identification and susceptibility testing of common uropathogens.

The use of CPS ID3 medium and VITEK 2 system is a complete solution perfectly adapted for the diagnosis of urinary infections, reducing both time and cost for simple and complex specimens.

Figure 1 : Identification of 120 strains with the appropriate card after preculture on CPS ID3, CPS ID2 or Columbia Blood Agar (CBA) media.

Figure 2 : Susceptibility testing of 117 strains with the appropriate card after preculture on CPS ID3, CPS ID2 or Columbia Blood Agar (CBA) media.

Figure 3 : Identification of 60 yeasts after preculture on CPS ID3, CPS ID2 or Sabouraud Gentamicin Chloramphenicol (SGC) media.

Figure 4 : Influence of CPS ID3 as a preculture medium on the identification with ID-GNB, ID-GPC and ID-YST cards.

Figure 5 : MIC agreement (± 1 dilution) between CPS ID2 and CBA or between CPS ID3 and CBA (%)

Figure 6 : Influence of CPS ID3 as a preculture medium on the MIC determination with VITEK®2

ID-GNB

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95% correlation

100% correlation

ID-GPC

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81.7% correlation

90% correlation

ID-YST

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</table>

91.7% correlation

100% correlation

Identification scale
1 Correct identification to one choice
2 Low discrimination
3 Unidentified
4 Misidentified

CONCLUSION

CPS ID3 is therefore fully compatible with bioMerieux VITEK®2 products for the identification and susceptibility testing of common uropathogens.

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