E. casseliflavus is often associated with various types and degrees of antimicrobial resistance. In particular, resistance to glycopeptides (vancomycin) is of great concern for clinicians and infection control professionals. Enterococcus faecalis and Enterococcus durans, are the two most frequently encountered species ofEnterococcus in enterococcal infections. On rare occasions, several strains of enterococci such as E. casseliflavus and E. gallinarum have also been reported as pathogens.

All of these species are present in varying levels of intrinsically vancomycin-resistant (vanC) or vancomycin-sensitive (vanA) strains. In general, vanC strains and vanA strains are often associated with a high or moderate level of acquired resistance to vancomycin (vanC and vanA E. casseliflavus and E. gallinarum usually present in a low level of resistance compared to vanA). Rapid and accurate identification of these enterococci is of prime importance for inappropriate antibiotic therapy and to avoid inappropriate cost of infection control measures. While molecular methods represent the gold standard in the identification of vanC and vanA strains, these methods lack the time and resources for routine use. The Rapid MGP Medium, an alternative identification assay capable of identifying other high-risk enterococci, is a simple carbohydrate test that differentiates pathogens E. faecalis and E. faecium isolates from non-significant E. casseliflavus and E. gallinarum species. The Rapid MGP Medium turns purple when detecting enterococci such as E. gallinarum and E. casseliflavus, while retaining blue for vancomycin-sensitive E. faecalis and vancomycin-resistant E. faecium, which were previously identified to the species level using traditional biochemical tests. The vancomycin MICs were determined using Etest as a supporting speciation tool.

Rapid MGP showed sensitivity and specificity of 100%. The vancomycin MIC values were in accordance to the species identified. Rapid MGP was shown to be a cost-effective addition to any clinical laboratory for rapid screening of Enterococci. It is useful in guiding proper therapeutic decisions, reducing unnecessary and costly infection control, and preventing unnecessary surveillance measures.

Discussion/Conclusion

Early detection of patients colonized or infected with VRE is an essential component of any hospital program designed to prevent nosocomial transmission of VRE. Once the prevalence of VRE reaches high levels within an institution, prevention of transmission becomes troublesome. The microbiology laboratory is the first line of defense against the spread of VRE in the hospital. The ability of the laboratory to identify enterococci and to detect vancomycin resistance promptly and accurately is essential. Recognizing VRE colonization and infection avoids complex and costly measures that are required when late detection of the problem is delayed. Isolates with transferable vanA or vanB genes, usually present in E. faecium and E. faecalis, are important from an infection control perspective, whereas those with vanC (E. casseliflavus / E. gallinarum) have not been associated with nosocomial outbreaks.

The results of this study show that Rapid MGP Medium was reliable in aiding in the speciation of Enterococci with reduced susceptibility to vancomycin by differentiating what's relevant in terms of infection control from an infection control perspective, whereas those with vanC (E. casseliflavus / E. gallinarum) have not been associated with nosocomial outbreaks.