Septicaemias caused by a strain of Staphylococcus haemolyticus exhibiting intermediate susceptibility to teicoplanin in multiple intensive care unit patients

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Septicaemias caused by coagulase-negative staphylococci (CoNS), including Staphylococcus haemolyticus, are common in neutropenic patients. Since these bacteria are often resistant to both \( \beta \)-lactam antibiotics and aminoglycosides, the empirical therapy of choice is a glycopeptide, either vancomycin or teicoplanin. Teicoplanin is less active in vitro against isolates of S. haemolyticus compared with other CoNS and there have been reports of treatment failures in neutropenic patients who had received the antibiotic for septicaemias caused by bacteria belonging to this species.1,2

In a recent study we compared the MICs of vancomycin and teicoplanin for 201 clinical isolates of CoNS recovered at the Leiden University Medical Center in 1985 and in 1994.3 In 1994 we identified eight isolates of S. haemolyticus, three of which exhibited intermediate susceptibility to teicoplanin (MICs 9, 9 and 10 mg/L, respectively) according to MIC breakpoints recommended by the National Committee for Clinical Laboratory Standards.4 The three isolates, all of which were susceptible to vancomycin, were recovered during a 1 month period from blood cultures obtained from three patients in the intensive care unit. All three patients suffered septicaemia according to CDC criteria.5 The remaining five isolates were recovered from patients in various other wards and were temporally unrelated.

In order to determine whether the three strains exhibiting intermediate susceptibility to teicoplanin were clonally related, DNA extracted from these bacteria was analysed by pulsed-field gel electrophoresis (PFGE) according to a method described previously.6 The Figure demonstrates the PFGE patterns for the eight S. haemolyticus isolates collected during 1994. The pattern of each of the five teicoplanin-susceptible isolates was unique, whereas those of the three intermediately susceptible isolates were indistinguishable, suggesting that the latter isolates belonged to a single clone.

To the best of our knowledge this is the first report of septicaemias in multiple patients caused by one S. haemolyticus strain exhibiting intermediate susceptibility to teicoplanin. The spread of strains of S. haemolyticus with reduced susceptibilities to teicoplanin among immunocompromised patients is a worrying development and the observation reported here suggests that this glycopeptide should be used with caution as empirical therapy for such patients with septicaemias caused by CoNS.

References

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