**INTRODUCTION**

Mupirocin (pseudomonic acid), is a family of bactericidal polyketide synthase inhibitors that interfere with protein synthesis by inhibiting the activity of bacterial isoleucyl-tRNA synthetase (IRS). Two percent mupirocin ointment has been used to treat post-operative and other skin infections, and infections of burn wounds. The compound has also been used to treat extremity and other skin infections, and infections of burn wounds. Two levels of MUP-R (low, MIC > 8 - 256; high, MIC > 256 µg/ml) occur, but routine susceptibility (S) testing has rarely been applied. S. aureus (CoNS), S. epidermidis (SA) and S. pyogenes (SPYO) are susceptible, whereas other species of staphylococci (S. lugdunensis, S. simulans) are resistant. All SPYO strains were MUP-S. High-level MUP-R was noted in approximately half of all R isolates. Significant MUP-R was detected in SA and CoNS originating from medical centers in Europe and the USA, and provides a guide for empirical treatment of topically acquired agents should guide selection of those most active.

**MATERIALS & METHODS**

**Selected references**


**RESULTS**

- Mupirocin resistance in S. aureus over the three-year period studied was greater in the USA (42 to 10.4%) than in Europe (13 to 6.7%), and occurred more frequently in nosocomial infections (Europe, 5.2 to 6.7%; USA, 7.2 to 10.4%) than in community-acquired infections (Europe, 3 to 4.2%; USA, 2 to 5.0%).
- While resistance rates remained stable among S. aureus in the USA over this period, an increasing trend in resistance (nosocomial, 5.2 to 6.7%; community-acquired, 1.0 to 3.2%) was documented among European isolates.
- Coagulase-negative staphylococci originating from the USA displayed greater levels of resistance (27 to 15.6%) than did European isolates (12.3 to 7.2%). Again, with those of nosocomial origin (USA, 28 to 4.14%; Europe, 17.1 to 27.3%) being more resistant than community-acquired isolates (USA, 27.5 to 39.1%; Europe, 12.0 to 20.3%).
- A trend of increasing resistance was only detected among coagulase-negative staphylococci of nosocomial origin.
- Resistance to mupirocin was not detected among S. pyogenes isolates, confirming results from numerous prior studies.

**SELECTED REFERENCES**