The coagulase-negative staphylococci are distinguished from S. aureus by their inability to clot blood plasma. A number of species and subspecies have been defined, based on genetic and molecular typing. Novobiocin-sensitive species include S. epidermidis, S. haemolyticus, S. lugdenensis, S. schleiferi and S. hominis, while S. saprophyticus and S. xylosus are resistant. It is not usually necessary to identify the species of coagulase negative staphylococci as there are no clear associations between clinical syndromes and the species.

S. epidermidis is the predominant human species, accounting for 65–90% of all staphylococci recovered from humans. It is a normal commensal at a wide variety of anatomical sites including mucous membranes, groin, axillae and exposed skin surfaces.

The recognition of coagulase-negative staphylococci as an increasingly important nosocomial pathogen has occurred recently. They are causative organisms in 19% of nosocomial ICU infections and are by far the most common pathogen isolated in catheter-related bacteremia. Other polymer-associated infections include the catheterised urinary tract, neurosurgical shunts and prosthetic joints.

Clinical manifestations can be nonspecific, following a subacute or even chronic course and, as a consequence of low virulence, are often not life-threatening. Disease may be more severe in the immunocompromised patient or if one of the more virulent species such as S. lugdunensis is involved.

Native valve endocarditis, often complicating congenital or valvular heart disease, is the only coagulase-negative staphylococcal infection in the immunocompetent host not attributed to the presence of a foreign body. Coagulase-negative staphylococci are responsible for less than 5% of cases of endocarditis; however, serious complications occur and the case-fatality rate is as high as 36%.

- Vancomycin is the drug of choice. Although clinically significant vancomycin resistance was first reported in 1987, its incidence has remained very low.

- Almost 90% of coagulase-negative staphylococci are resistant to methicillin and therefore antistaphylococcal penicillins and cephalosporins are of little value.

- On the rare occasions when sensitivity to these agents can be demonstrated, they may be the drugs of choice.

- Both linezolid and quinupristin/dalfopristin have excellent in vitro activity against coagulase-negative staphylococci even in the presence of vancomycin resistance, but as yet there is limited clinical experience in using these agents.

- Resistance to aminoglycosides is also common.

- Even if sensitivity is shown, the requirement for additional bactericidal action is doubtful except in deep-seated infections such as endocarditis.

- Coagulase-negative staphylococci are frequently resistant to multiple antibiotics, including co-trimoxazole, erythromycin, quinolones, clindamycin, tetracycline and chloramphenicol.

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