appears probable the *M. saprophyticus* (Baird-Parker's Micrococcus subgroup's 1-3[2]) should be classified as a further species of the genus *Staphylococcus in* view of their close similarity in DNA composition and biochemical characteristics with members of the genus *Staphylococcus*. *Micrococcus lactis* (Baird-Parker's subgroups 5 and 6) and *M. luteus* (subgroup 7) are distinguishable on carbohydrate metabolism and fine differences in DNA composition and *M. marrhuae* and *M. roseus* are distinguished on pigmentation, DNA, cell wall comcomposition, and motility.

References

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Baird-Parker's Micrococcus Subgroup 3

R. G. MITCHELL (*Churchill Hospital, Oxford*)

The cultural, biochemical, and physiological properties of *Micrococcus* subgroup 3 are described and compared with those of *S. aureus*. Strains isolated from patients are moderately resistant to penicillin, highly resistant to novobiocin, and variably resistant to some antibiotics such as fusidic acid. Preliminary ecological studies have been carried out utilizing a selective and indicator plate which contains novobiocin, mannitol, and bromcresol purple.

Distribution of Coagulase-negative Staphylococci from Newborns

A. B. CLYMO (*Southampton Children's Hospital*)

Coagulase-negative staphylococci have been isolated from the blood stream of 32 symptomatic newborns.

In an effort to identify the site of blood stream invasion, a staphylococcal survey of various sites in the affected babies was undertaken. The sites were conjunctival sacs, nostrils, pharynx, skin of the antecubital fossa from which the blood for culture was taken, umbilicus, urine, stools, and perineum.

An attempt to group the isolates was made by pigment production, antibiotic resistance, agglutination by random sera, agglutination by serum from the baby affected, and by the methods of Baird-Parker.

With each of these methods, a classification was possible. However, none of the classifications corresponded.

There were some similarities in the behaviour of isolates from the nasopharynx and blood stream. There were fewer similarities between blood stream isolates, and more superficial sites such as antecubital skin.

The Opportunist Pathogenicity of Coagulase-negative Staphylococci

R. J. HOLT (*Queen Mary's Hospital, Carshalton*)

For nearly a century golden pigmented *Staphylococcus aureus* strains have been regarded as the only pathogens in the genera Staphylococcus and Micrococcus, and acceptance into routine practice of the coagulase test some 30 years ago appeared to confirm the general view that coagulase-negative strains with whitish pigment could safely be disregarded. When these organisms were cultured from blood, cerebrospinal fluid, or urine many workers ignored them as contaminants, despite some 90 isolated references since 1900 to bacteraemia caused by coagulase-negative staphylococci, frequently associated with pre-existent cardiac damage (Smith, Benes, Kingsbury, and Hasencleuer, 1958). Now, however, in addition to this role, they are widely recognized as colonizers or invaders of internal artificial prostheses, usually with a concurrent bacteraemia, and the work of Gallagher, Montgomerie, and North (1965) and of Mitchell (1968) has established them as primary pathogens of the urinary tract.

Investigations into the colonization of ventriculo-atrial shunts revealed that almost all the cocci responsible for this troublesome complication belonged to Baird-Parker's subgroup Staphylococcus II which was found commonly, but by no means exclusively, on the skin of patients and staff in hospital and of subjects of all ages in normal environs (Holt, 1969).

Since these opportunist or potentially pathogenic cocci were all coagulase-negative, their lysozyme and deoxyribonuclease activities were investigated as additional possible criteria. Almost all strains from colonized prostheses failed to produce either enzyme, whereas over 50% of strains from the urinary tract were lysozyme positive and 27% were DNase positive. It is suggested that the slow, indolent colonizing strains are successful invaders because they provoke very little somatic response.

References

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