

Staphylococcus haemolyticus Urinary Tract Infection in a Male Patient

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Urinary tract infections caused by staphylococci are usually attributed to Staphylococcus epidermidis or S. saprophyticus. The case study reported here describes a persistent urinary tract infection caused by S. haemolyticus in a 38-year-old male whose infection was ultimately resolved through the use of the antibiotic trimethoprim-sulfamethoxazole.

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species often exceed those of gram-negative bacilli, which cause 80% of all UTIs (2, 13). Strains of Staphylococcus haemolyticus produce a hemolysin (5), cytolysin (5), and enterotoxin (17) and are often multiply antibiotic resistant (6, 7, 13). Although these characters suggest a potential pathogenic role for this organism, its ability to initiate infection in an infant mouse model for testing the virulence of coagulase-negative staphylococcal species is reportedly poor compared with the infective abilities of Staphylococcus epidermidis (15). However, larger clinical and laboratory studies are needed to fully assess its virulence for humans and laboratory animals, since preliminary (unpublished) studies in our laboratory suggest that fresh clinical isolates of Staphylococcus haemolyticus are more virulent for infant mice than was reported previously (15).

Recrudescence infections follow as many as 10% of all UTIs caused by coagulase-negative staphylococci, especially among patients with indwelling catheters and prosthetic devices (7, 10). To our knowledge, our patient was not afflicted by any underlying clinical disease and was healthy. Persistence of the organism during the 12 days of therapy with erythromycin can be attributed partially to poor in vivo response of the organism to this bacteriostatic drug even though all three strains were susceptible in vitro to the antibiotic. Resolution of the illness immediately followed the change in therapy to trimethoprim-sulfamethoxazole.

The results of this study and those of others suggest that an epidemiological advantage may often be gained by identifying coagulase-negative staphylococci when they are cultured in large numbers from some types of clinical specimens (1, 4, 6, 7, 9, 10). This is especially applicable to specimens obtained from problematic patients suspected of having endocarditis and to specimens from patients who are being evaluated for possible nosocomial infections (7, 10, 13). The significance of coagulase-negative staphylococci that are cultured from these types of patient specimens is typically recognized with some difficulty because of their frequent colonization of human skin, a site from which they are inadvertently selected as contaminants during collection of transcutaneous specimens (11). Thus, the physician must occasionally distinguish among isolates which are obtained at different times or from different sites in a patient, among strains which may represent fresh infection or treatment failure infections, and among isolates which may represent contaminants or infective strains (1, 9, 10). Diagnostic criteria are available for distinguishing such strains and include biotyping techniques, such as antibiograms, biochemical profiles, and growth characteristics (6–8, 12, 18).

With our patient, multiple isolation of Staphylococcus haemolyticus, coupled with a high colony count, suggested that the initial infection was not resolving with erythromycin therapy and that a change in therapy was in order. In the absence of a high colony count, a coagulase-negative staphylococcus isolated from a urine specimen of a similar patient might have been dismissed as a contaminant. In this case, other etiologic agents of urethritis in males, e.g., Chlamydia, might have been suspected. This scenario, in which the significance of coagulase-negative staphylococci cultured from urine is underestimated, may occur more frequently than is generally believed, since studies have shown that many staphylococcal UTIs are accompanied by colony counts far lower than $10^8$ CFU/ml (14). Thus, in a clinical case of symptomatic UTI with low accompanying urinary colony counts of coagulase-negative staphylococci, biotyping a patient’s coagulase-negative staphylococcal isolates could aid the physician in determining the significance of the organism and could guide the selection of the appropriate course of chemotherapy for the patient. However, the increased workload and cost that result from such laboratory work preclude such biotyping on a routine basis. The need to do it rests on clinical evidence that implies that such studies are useful in treating the patient.

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LITERATURE CITED

enterotoxin A, B, and C produced by coagulase-negative strains
terization of staphylococci from human skin. I. Amended de-
scriptions of Staphylococcus epidermidis and Staphylococcus
saprophyticus and descriptions of three new species: Staphylo-
coccus cohnii, Staphylococcus haemolyticus, and Staphylococ-