Peritonitis Attributable to *Kocuria rosea* in a Pediatric Peritoneal Dialysis Patient

Editor:

Kocuria species are gram-positive, coagulase-negative, coccoid Actinobacteria, members of the *Micrococcaceae* family, that are frequently found in the environment and on human skin (1). *Kocuria rosea* is a rarely reported human pathogen that is difficult to isolate using standard microbiologic methods because of its similarities to other commonly reported pathogens (2). To our knowledge, we here present the first case in the English literature of peritonitis attributable to *K. rosea* in a pediatric peritoneal dialysis (PD) patient, successfully managed with intraperitoneal antibiotics.

An 8-year-old immunocompetent girl started treatment with PD because of dysplastic kidneys. The patient remained well, without any dialysis-related problems. A year later, she developed signs and symptoms consistent

with peritonitis, such as cloudy peritoneal effluent and low-grade fever (38°C) for 8 hours. Microbiologic investigation of the peritoneal effluent revealed a white cell count of 1170/μL, with a polymorphonuclear cell ratio of 88%. The peritoneal catheter exit site and tunnel were not infected, and no cutaneous lesions were evident.

Although no organisms were seen on Gram stain, the girl was treated empirically with intraperitoneal vancomycin (30 mg/L) plus ceftazidime (125 mg/L) while cultures were pending. After 72 hours, the peritoneal fluid was clear. Culture results were delayed for more than 1 week because of the specialized growing requirements of the culprit organism. Specifically, peritoneal fluid was inoculated and incubated aerobically at 37°C in 5% CO₂ for 72 hours, and a pure growth of light-red nonhemolytic colonies was obtained on blood agar. The organism was identified as *K. rosea* by the API Staph System (bioMérieux, Marcy l'Etoile, France). The isolate was also identified by conventional tests, which revealed pairs or clusters of gram-positive cocci that were catalase-positive, coagulase-negative, nonmotile, and bacitracin- and lysozyme-sensitive, with negative nitrate reduction and positive esculin hydrolysis.

Antibiotic sensitivity testing according to the Clinical and Laboratory Standards Institute guidelines found that the *K. rosea* isolate was sensitive to penicillin, oxacillin, erythromycin, clindamycin, ciprofloxacin, levofloxacin, trimethoprim/sulfamethoxazole, vancomycin, teicoplanin, and linezolid. Unfortunately, genome-based confirmation of *K. rosea* was not available. Although the *K. rosea* isolate was a sensitive strain, vancomycin was given for a total of 14 days because culture results had been delayed for more than 1 week; the ceftazidime was discontinued. Throughout the peritonitis course, PD was continued without ultrafiltration problems.

Kocuria species are gram-positive, strictly aerobic micro-organisms belonging to the family *Micrococcaceae*. They are generally considered to be nonpathogenic saprophytes of skin, mucosa, and oropharynx. *Kocuria* species were previously classified into the genus *Micrococcus*, but after a taxonomic revision of that genus, some strains were reclassified into the new genus *Kocuria* (1). More than 11 species of *Kocuria* have been recognized (2).

Systemic infection from *K. rosea* is uncommon; however, a small number of recent reports have described an association of *K. rosea* with intravenous catheters and chronic ambulatory PD (3,4). Although *K. rosea* peritonitis in pediatric PD patients is rare and seldom virulent,

it should be considered a nosocomial pathogen instead of a contaminant.

DISCLOSURES

The authors have no financial conflicts of interest to declare.

J. Dotis
N. Printza
F. Papachristou

1st Department of Pediatrics
Aristotle University
Hippokratio Hospital
Thessaloniki, Greece

*email: nprintza@in.gr

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doi:10.3747/pdi.2011.00300