Septicemia Due to *Acinetobacter junii*

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***Acinetobacter* spp. are considered to be emerging nosocomial pathogens. *Acinetobacter junii* is a rare cause of disease in humans and was associated mainly with bacteremia in preterm infants and pediatric oncologic patients. In this report we describe a case of catheter-related infection by *A. junii* in an adult oncologic patient. Application of molecular methods for precise species identification of *Acinetobacter* spp. will help to further clarify their role as human pathogens.**

CASE REPORT

A 39-year-old female was admitted to the hospital for implantation of a tunneled Hickman-catheter. The patient suffered from long-standing polycythemia vera and subsequent osteomyelofibrosis, and the catheter was placed in preparation of an allogeneic stem cell transplantation. Placement of the catheter was uneventful, and 2 days later the patient was dismissed temporarily from the hospital to allow for a weekend of recreation. Management of the freshly implanted catheter was left to the care of the patient, who was an experienced anesthesiologist (working in an outpatient children's clinic). Eight days after the placement of the catheter and 4 days after the beginning of conditioning treatment with total body irradiation and fludarabine, she developed temperatures up to 39°C. Four sets of blood cultures were drawn in parallel from the different catheter lumens and peripheral veins on two consecutive days. Empirical treatment with ceftazidime was started at day 1 of the fever after the first set of cultures. All four blood cultures from day 1 and the two cultures from the catheter of day 2 grew *Acinetobacter junii* from the aerobic blood culture bottle. In the cases of positive paired central and peripheral cultures, the times to detection were 13 versus 16.2 h and 17.8 versus 17.2 h, respectively (BacT/ALERT FA; Organon Teknika, Durham, N.C.), further suggesting catheter-related infection by the first pair of bottles (3). When these results became available, the catheter was removed. There was complete resolution of signs and symptoms, and clearance of bacteremia was documented by repeated blood cultures. No further complications due to *A. junii* were noted in the course of the treatment. Interestingly, from the day the catheter was placed until the time the catheter-related infection was diagnosed, the patient had received treatment for selective decontamination of the gut with oral trimethoprim-sulfamethoxazole (SXT) for 2 days, followed by ciprofloxacin for 6 days because of intolerance of the patient to SXT.

Acinetobacter junii is classified according to DNA-DNA hybridization studies as genomospecies 5 of the genus *Acinetobacter* (4), members of which have recently received considerable attention as a cause of nosocomial infections (1, 7, 9, 16). *A. junii* is a rare cause of disease, with documented cases of septicemia in neonates (2, 15) and pediatric oncology patients (10) and a case of corneal perforation (13). The true incidence of infections by *A. junii* might be underestimated, since phenotypical identification is difficult (1) and may require analysis of 16S rDNA (8) or DNA-DNA-hybridization studies (7). We have reported a case of catheter-related septicemia due to *A. junii* in an adult oncologic patient.

Microbiology. Blood culture isolates appeared as coccobacillary catalase-positive and oxidase-negative gram-negative rods. After 24 h, colonies on sheep blood agar and MacConkey agar were about 1.5 mm in diameter, smooth, and colorless. They were identified as *Acinetobacter lwoffii* and *A. junii* by the VITEK I system (biocode 40000000000, 98% presumptive identification, VITEK software version VTK-R07.01; bioMérieux Vitek, Inc., Hazelwood, Mo.). PCR amplification of the complete 16S rRNA gene was performed with genomic DNA according to a previously published protocol (12). Amplification products were subjected to direct sequencing, and a 100% match to GenBank sequence Z93438 of *A. junii* (8) was noted. Antibiotic susceptibility was determined according to NCCLS guidelines for disk diffusion (11), and isolates of all six positive blood cultures were susceptible to piperacillin, piperacillin-sulbactam, carbapenems, expanded- and broad-spectrum cephalosporins, aztreonam, fluoroquinolones, SXT, tetracycline, and aminoglycosides but resistant to ampicillin, mezlocillin, cefazolin, and fosfomycin. The culture of the removed catheter tip remained sterile, most probably due to the empirical treatment with ceftazidime. Also, *A. junii* was not isolated from any subsequent specimen from the patient.

Discussion. No attempts to identify the source of the infection by *A. junii* were made in the present case. Placement of the catheter was performed under maximum sterile precautions in an operating theatre. However, vascular devices as a portal of entry for *Acinetobacter* sp. have been noted before (6). Im-

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proper handling of the catheter by the patient at home also cannot be ruled out. In the study of Kappstein (10), aerators of water faucets were found to be contaminated with the outbreak strain of *A. junii*. In the case of corneal perforation, a thorn had traumatized the cornea, with subsequent instillation of plant juice for treatment (13). *Acinetobacter* spp. are found in nature ubiquitously (1), and therefore no common source of infection might be delineated.

Members of the genus *Acinetobacter* have been classified according to DNA-DNA hybridization (14), and at present no simple phenotypic scheme for the precise identification of *Acinetobacter* sp. exists (1, 5). *A. junii* (genomospecies 5), which is asaccharolytic, can be differentiated from *A. lwoffii* by its ability to grow at 41°C and positive reactions for citrate and Mollers arginine. Sequence analysis of the 16S rDNA or the *gyrB* gene is rapid and offers an alternative for the differentiation of the DNA groups of this genus (8, 17, 18).

The present case represents the first documented catheter-related infection by *A. junii* in an adult oncologic patient. It adds to the growing list of infections associated with this organism, and the application of molecular methods for precise species identification of *Acinetobacter* spp. will help to further clarify their roles as human pathogens.

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