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CASE REPORT
OLGU SUNUMU

Acinetobacter lwoffii Septicemia in a Newborn

Yenidoğan Bir Bebekte *Acinetobacter lwoffii* sepsisi

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ABSTRACT

Acinetobacter lwoffii is gram-negative coccobacillus which is seen as a normal flora of the oropharynx and skin of the healthy individuals. It is a potential opportunistic pathogen in patients with impaired immune systems, and can cause of healthcare associated infections like septicemia. *A. lwoffii* infection is increasing particularly in premature and very low-birth weight neonates. Here, we present a case of a low birth weight neonate with *A. lwoffii* infection who was successfully treated.

Keywords: *Acinetobacter lwoffii*, septicemia, NICU

ÖZ

Acinetobacter lwoffii sağlıklı bireylerin cilt ve orofarenksinde flora üyesi olarak saptanabilen bir gram-negatif kokobasildir. İmmün baskılanmış kişilerde fırsatçı patojen olarak septisemi gibi sağlık bakımı ilişkili enfeksiyonlara sebep olabilir. Prematüre ve düşük doğum ağırlıklı bebeklerde *A. lwoffii* enfeksiyon sıklığı artmaktadır. Bu vaka sunumunda, düşük doğum ağırlıklı bir bebekte başarı ile tedavi edilmiş *A. lwoffii* enfeksiyonunu sunmak istiyoruz.

Anahtar kelimeler: *Acinetobacter lwoffii*, sepsis, yenidoğan yoğun bakım ünitesi

INTRODUCTION

Acinetobacter is an aerobic, non-fermentative, immotile, gram negative bacillus, which is widespread in nature. It has been identified as a cause of healthcare associated infections, especially in the colonization and infection in immunocompromised patients as an opportunistic pathogen (1,2). However, a limited number of cases of infection caused by *Acinetobacter lwoffii* has been reported, most of them are central intravascular catheter-related blood stream infections or bacteremia. On the other hand, community-acquired infections associated with *Acinetobacter lwoffii* such as pneumonia, meningitis, urinary tract infection, skin and wound infection and acute gastroenteritis were also reported (3). This report presents the case of a low birth weight neonate with multidrug-resistant *A. lwoffii* infection.

CASE REPORT

A male neonate was born at 26 week because of maternal preeclampsia. The mother had a history of chorioamnionitis. He was intubated due to respiratory failure. Ampicillin, amikacin treatment and fluconazole prophylaxis were started due to suspicion of early onset septicemia. Umbilical artery and vein catheters were inserted at the first day of life. The blood cultures, taken at the admission to neonatal intensive care unit (NICU), were negative. Ligation of ductus arteriosus was performed at seventh day of life. After surgery his vital signs deteriorated and abdominal distension developed. Sepsis was considered due to gastric residues, abdominal distention, and prolongation of capillary filling. Because of worsening clinical status, laboratory tests and blood cultures were repeated. The laboratory data were as

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follows: WBC 32,200/mm³, neutrophils 24,700 (76%); lymphocytes 1,300 (4%); monocyte 5900 (18%); hemoglobin 11 g/dL; platelets 55,000/mm³; mm/h; C-reactive protein 84 mg/dL; procalcitonin was 4.1 ng/mL. Metabolic acidosis was detected. Lumbar puncture was not performed, because of poor general condition and thrombocytopenia. Air around the intestinal wall was detected on abdominal radiography. He underwent surgery for perforated necrotizing enterocolitis. Broad spectrum antibiotics (meropenem, teicoplanin and fluconazole) were started immediately for suspicion of healthcare associated infection. Central vascular catheter was removed. The result of the blood culture was reported as *A. Iwoffii*. The microorganism was resistant to penicillin G, cefotaxime, ceftazidime, gentamicin, amikacin, cefepime and sensitive to meropenem (Minimal inhibitor concentration values: <0.5). Five days later his clinical findings improved, and inflammation markers returned to normal levels. Control blood culture was negative and meropenem treatment was completed to two weeks.

DISCUSSION

Acinetobacter Iwoffii, is an aerobic and gram-negative bacillus and recognized as normal flora of the skin, oropharynx, and perineum of healthy individuals. It has been previously reported that *A. Iwoffii* is found in environmental sources, particularly on the hands of nursing staff. It was associated with healthcare associated infections, particularly in immunocompromised hosts (4). Most of cases of *A. Iwoffii* bacteraemia are associated with central vascular catheter (2).

Factors such as longer stay in hospital, intensive care unit, and burn units, major surgical procedures, neutropenia, underlying chronic diseases, and previous antibiotic use are predisposing factors for *Acinetobacter* infections (5). Prematurity is thought to be associated with disseminated disease because of the immaturity of the immune system (6). Our patient was premature and extremely low birth weight infant. He was undergone ductal ligation and perforated necrotizing enterocolitis repair. He also had umbilical catheter. All these factors contributed to the development of *A. Iwoffii* septicemia.

The infections due to *Acinetobacter* spp. are often extremely difficult for clinicians to treat, because of rapid antimicrobial resistance development to all currently available antimicrobial agents like aminoglycosides, fluoroquinolones, ureidopenicillins and third generation cephalosporins (7). Carbapenems are the most effective antibiotics against these agents, while colistin can be used against carbapenem resistant *Acinetobacter* spp. on rare occasion (8).

Increasing rates of *Acinetobacter* spp are reported in NICUs. Judicious and timely antibiotic treatment is one of the important keys in controlling multi-drug resistant *Acinetobacter* infections (9). In the selection of empirical antibiotic treatment for healthcare associated neonatal sepsis cases, the resistance status of each unit should be considered.

ETHICAL DECLARATIONS

Informed Consent: Written informed consent was obtained from all participants who participated in this study.

Referee Evaluation Process: Externally peer-reviewed.

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KAYKANLAR

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