Original Research Paper General Medicine

A Rare Case of Bacteremia Due to Acinetobacter in an Immunocompetent Adult

Dr Rakesh Garlapati	Post Graduate, Department of general medicine, Devraj Urs Medical college
Dr Prabhakar K	Professor & HOD, Department of General Medicine, Devaraj Urs Medical college
Dr Thanuj K V	Post Graduate, Department of General Medicine, Devaraj Urs Medical college

ABSTRACT

The genus Acinetobacter comprises a complex and heterogeneous group of bacteria, many of which are capable of causing a range of opportunistic, often nosocomial, infections in humans.

A 35-year-old male, normotensive, non-diabetic, smoker was admitted in Medical ICU with complaints of fever, cough with expectoration and chest pain of four days duration.

WBC count 7500/µl (neutrophils 92%, lymphocytes 6%). Chest x ray showed right side lower lobe consolidation. Blood cultures and sputum culture were send before starting of antibiotic. After 24 hours of incubation, the isolate was identified as Acinetobacter sps both in blood and sputum. The patient was put on medication and there was complete resolution of his signs and symptoms.

KEYWORDS Acinetobacter, Bacteraemia, Immunocompetent

INTRODUCTION

Acinetobacter baumannii (AB) is a pleomorphic aerobic gram-negative bacillus, commonly isolated from the hospitalized patients[1]. This organism is often cultured from hospitalized patients' sputum or respiratory secretions, wounds, and urine.

It is a major pathogen associated with hospital-acquired pneumonia (HAP)[2]. In rare cases, AB can cause community-acquired pneumonia (CAP), reported to occur primarily during the humid seasons in Asia-Pacific countries[3].

Affected patients often have specific characteristics such as old age, serious underlying diseases, immunosuppression, have suffered major traumas or burn injuries, have been subject to invasive surgical procedures including indwelling catheters, support with mechanical ventilation, extended hospital stay or previous administration of antibiotics[1].

CASE REPORT

A 35-year-old male patient was admitted to medical ICU with worsening symptoms of productive cough, fever with chills and chest pain for four days duration. No history of hospital admission was present in the past three years. The patient, had history of cigarette smoking for past 3 years and consumed alcohol in moderation.

On admission, blood pressure was 160/100 mmHg, respiratory rate was 34 breaths per minute, pulse rate was 136 beats per minute, and body temperature was 100.6°F. On examination, patient had coarse crepitation were heart in right infra scapular area and infra axillary area.

His haemogram was as follows:

Hb -15.8gm, WBC count 7500/µl (neutrophils 92%, lymphocytes 6%), Platelets 60000. Blood urea was 52mg/dl and normal creatinine. LFT was deranged. The arterial blood gas analysis at room air was pH of 7.44, pCO2 of 32.4 mmHg, pO2 of 62.5 mmHg, HCO3 - of 21 mmol/L, and O2 saturation of 89%.Serum sodium, potassium, and chloride were 139, 4.1, and 105 mmol/L, respectively. A chest radiograph showed consolidation in the right lower lobe.In view thrombocytopenia, he was tested for dengue, rickettsial infections and were negative.He tested negative for Widal and Malarial parasite.

Blood and sputum cultures were before the first dose of antibiotic was given. After 24 hours of incubation, colonies were found on sheep blood agar and MacConkeys agar which were non-lactose fermenting. On staining these isolates appeared as gram- negative cocco bacillary forms. The isolate was identified as Acenitobacter baumannii both in blood and sputum and it was sensitive to Amikacin, Gentamicin, Piperacillin, tobramycin, meropenam, Imipenem, Ciprofloxacin. The patient was put on medication and there was complete resolution of his signs and symptoms. Patient was symptomatically better and discharged with oral antibiotics. Repeat chest x ray after 10 days of discharge showed resolution of pneumonic consolidation

DISCUSSION

Acinetobacter species are aerobic gram negative coccobacilli that have emerged as important opportunistic pathogens, especially among debilitated patients[1]. Clinical forms of Acinetobacter infections include mainly the respiratory tract, bloodstream infections, peritoneum, urinary tract infection, surgical wounds, meningitis, skin and soft tissue infections[3]. Infections caused by species of Acinetobacter other than A. baumannii have been rarely reported in literature

Risk factors are smoking history, chronic obstructive pulmonary diseases, alcoholism, diabetes mellitus, renal diseases, and malignancies[4-7]. Patients usually present with sudden onset of high grade fever and chills accompanied by sudden cough with sputum, chest pain, and respiratory distress[6,7,8]. Chest radiograph typically shows consolidation[8,9]. The patient in this report was 35 years old with a 3 year history of cigarette smoking and consumed alcohol moderately. His clinical presentation began with an acute fever and he had bacteremia and was in shock at the time of admission, with the chest radiograph showing lobar consolidation in the right lower lobe.

Empirical antibiotics such as ceftazidime with aminoglycoside, ticarcillin/clavulanate, and imipenem are recommended for CAP-AB. Studies have shown that CAP-AB shows good response to antipseudomonal penicillins, imipenem, aminoglycoside, ampicillin/ sulbactam, and ciprofloxacin[8].

CONCLUSION

Acinetobacter baumannii is a well-known causative agent of nosocomial infections, particularly in intensive units. Community-acquired pneumonia, however, is quite rare, and usually has a fulminant course and high case fatality rate.

REFERENCES

1. Ozdemir H, Tapisiz A, Ciftçi E, et al. Successful treatment of three children with post-neurosurgical multidrug-resistant *Acinetobacter baumannii* meningitis. Infection 2010;38:241–4
2. Fournier PE, Richet H. The epidemiology and control of Acinetobacter baumannii in health care facilities. Clin Infect Dis 2006;42:692-699.
3. Ong CW, Lye DC, Khoo KL, et al. Severe communityacquired Acinetobacter baumannii pneumonia: an emerging highly lethal infectious disease in the AsiaPacific. Respirology 2009;14:1200-1205.
4. Chen MZ, Hsueh PR, Lee LN, Yu CJ, Yang PC, Luh KT. Severe community-acquired pneumonia due to Acinetobacter baumannii. Chest 2001;120:1072-1077.
5. Anstey NM, Currie BJ, Hassell M, Palmer D, Dwyer B, Seifert H. Community-acquired bacteremic Acinetobacter pneumonia in tropical Australia is caused by diverse strains of Acinetobacter baumannii, with carriage in the throat in at-risk groups. J Clin Microbiol 2002;40:685-686.
6. Leung WS, Chu CM, Tsang KY, Lo FH, Lo KF, Ho PL. Fulminant community-acquired Acinetobacter bau- mannii pneumonia as a distinct clinical syndrome. Chest 2006;129:102-109.
7. Han SH, Na DJ, Yoo YW, et al. A case of probable community acquired Acinetobacter baumannii pneumonia. Tuberc Respir Dis 2007;63:273-277.
8. Song JH; Asian Hospital Acquired Pneumonia Working Group. Treatment recommendations of hospitalacquired pneumonia in Asian countries: first consensus report by the Asian HAP Working Group. Am J Infect Control 2008;36(4 Suppl):S83-S92.
9. Anstey NM, Currie BJ, Withnall KM. Community acquired Acinetobacter pneumonia in the Northern Territory of Australia. Clin Infect Dis 1992;14:83-91.