Bacteraemic E.coli Pneumonia

Mohammed Haneef
Koyili Hospital, Kannur, Kerala 670004

ABSTRACT
Community acquired pneumonia (CAP) remains a common and serious illness with a high morbidity and mortality despite potent antibiotics. Pneumonia is a microbial infection involving lung parenchyma. Case Study: In this paper a community acquired pneumonia case of a 38 old lady is reported. Since this patient had evidence of UTI at the time of admission, and same organism was grown in urine, sputum and blood, the cause of pneumonia is bacteremic rather than hospital acquired. Most of the available reports describes occurrence of E. coli pneumonia in immunocompromised patients. This patient probably had increased susceptibility to bacteremia as she was on a short course of steroids for her back pain.

Keywords: Community acquired pneumonia, Escherichia coli, Urinary tract infection

INTRODUCTION
Community acquired pneumonia (CAP) remains a common and serious illness with a high morbidity and mortality despite potent antibiotics. Pneumonia is a microbial infection involving lung parenchyma. It is a major cause of hospital admission, and ranks sixth leading cause of death in United States. The problem is much greater in countries like India. The usual causative organism is Gram positive. CAP due to E.coli is rare and carries high mortality.

CASE HISTORY
38 year old teacher was admitted on 25.6.07 with fever, chills and dysuria for 3 days duration. She had received prednisolone 30 mg OD for acute back pain from 22.6.07. There was no other significant illness in the past. She was not known diabetic. Initial evaluation revealed a stable vitals and no remarkable physical finding. She was admitted to the ward with a provisional diagnosis of urinary tract infection and started on ceftriaxone 1gm IV BD, pending reports. Urine analysis showed numerous pus cells and the sample was sent for culture. Complete blood count showed polymorphonuclear leucocytosis with a count of 17,500/mm.3 Random blood sugar was 89 mg%. She was a febrile for a day, but developed acute dyspoea on 2nd day of her admission. Fever spikes also increased to 104°F, physical examination at that point revealed tachypnoea.

Figure 1. Chest x ray on 27.6.07 showing B/L infiltrates in the lower

Figure 2. Chest x ray on 16.7.0, at discharge

Corresponding Author:
Dr. Mohammed Haneef, MD (med), PGDIIS (Diab), Consultant Physician – Diabetologist, Koyili Hospital, Kannur, Kerala 670004.
Phone: 9447236625. E-mail: dr.mhaneef@gmail.com
with bilateral crepitations mainly in the lower zones. A chest radiograph was taken and showed evidence of B/L lower zone infiltrates suggestive of bronchopneumonia. She deteriorated rapidly with fall in oxygen saturation and appearance of maculopapular rash over the trunk. Patient was shifted to ICU, antibiotic coverage was improved. Blood and sputum samples were sent for culture. Urine culture reported on 3rd day grew E.coli sensitive to amikacin and gatifloxacin. She was then started on both these antibiotics and showed improvement from 2nd day of above drugs. Blood and sputum also grew E.coli sensitive to the same drugs. Her HIV status was negative. Lung signs decreased on 5th day with disappearance of rash. Oxygen saturation was maintained at 95% and shifted to ward on 8th day. She was discharged on 16.7.07 with normal functional status and clear chest radiograph. She was reviewed ten days later and had no clinically detectable abnormality.

**DISCUSSION**

Pneumonias are broadly classified as community acquired or nosocomial. Nosocomial pneumonia or hospital acquired pneumonia (HAP) is defined as pneumonia occurring at least 48 hours after hospitalization, and not incubating at the time of admission. Typical pneumonia is acquired by bronchogenic spread of pathogens. In adults 60-75% of pneumonia is due to S.pneumoniae. Gram negative organisms have not been regarded as primary pathogens in the lung, but only as “opportunist”. E.coli is the leading cause of both community acquired and nosocomial urinary tract infection (UTI). As many as 50% of women have at least one episode of UTI in their life time. E.coli causes 12-50% of nosocomial infection. E.coli pneumonia is usually nosocomial and acquired accounting for 9% of cases reported. The organism reaches the respiratory tract by aspiration of oropharyngeal secretion due to colonization or by haematogenous dissemination from primary source in the GIT or genitourinary tract. E.coli pneumonia occurring a community acquired form is rare and is seen in diabetics, alcoholics and in immunocompromised patients. Most E.coli pneumonias are broncho pneumonias, but the process can be radio graphically variable. Sputum culture is usually positive in bacteremic form of E.coli pneumonia. It carries a high mortality ranging from 30 - 70%. In ICU setting the risk factors for death includes shock, systemic inflammatory response syndrome a high APACHE score, bilateral infiltrates on chest radiograph and ARDS.

Since this patient had evidence of UTI at the time of admission, and same organism was grown in urine, sputum and blood, the cause of pneumonia is bacteremic rather than hospital acquired. Most of the available reports describes occurrence of E. coli pneumonia in immunocompromised patients. This patient probably had increased susceptibility to bacteremia as she was on a short course of steroids for her back pain.

**REFERENCE**