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Case Report

Pneumonia due to Group A βeta haemolytic streptococci in an adult: case report

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Abstract: Streptococcus pyogenes i.e. Group A Streptococci(GAS) is a versatile organism. . GAS has a capacity to cause a variety of invasive diseases, with high rates of morbidity and mortality. We are presenting a report of pneumonia due to Group A Streptococcus with sarcoidosis in a 33 year old female with complaints of on and off cough for last 5-6 months, with expectoration and fever of 15 days duration. The radiological examination of chest and microbological findings in broncoalveolar lavage confirmed Streptococcus pyogenes as the causative agent of pneumonia. The patient was started on amoxyclav for five days. On fifth day patient was asymptomatic.
Keywords: Group A streptococcus, invasive, Brochoalveolar lavage.

INTRODUCTION

Streptococcus pyogenes i.e. Group A Streptococci(GAS) is a versatile organism [1]. The primary site of invasion of the human body by Str pyogenes is the throat. Sore throat is the most common of the streptococcal diseases [2]. GAS has a capacity to breach epithelial barriers and cause a variety of invasive diseases, which include pharyngitis, impetigo, cellulitis, scarlet fever, puerperal sepsis, bacteremia, pneumonia, streptococcal toxic shock syndrome, necrotizing fasciitis, and endocarditis with high rates of morbidity and mortality [3]. Streptococcal pneumonia seldom follows throat infection but may occur as a complication of influenza or other respiratory viral diseases [2]. In addition, GAS infection can trigger serious post infection immune mediated disorders, including acute post streptococcal glomerulonephritis, acute rheumatic fever, and rheumatic heart disease [3]. On a global scale, GAS is an important cause of morbidity and mortality. The burden of invasive GAS diseases is unexpectedly high [4].

We are presenting a report from India of pneumonia due to Group A Streptococcus with sarcoidosis in adult. Group A streptococcal pneumonia in adults has not been far and widely reported.

CASE REPORT

A 33 year old female presented with complaints of on and off cough for last 5-6 months, with expectoration and fever of 15 days duration. The cough had no diurnal or postural variation. There was no associated significant weight loss or loss of appetite. There was no h/o previous tuberculosis, no family h/o tuberculosis.

There were notable changes in X-ray chest and HRCT. On X-ray, there were bilateral upper zone consolidation was seen. An HRCT revealed bilateral enlarged mediastinal lymph nodes and multiple nodules along lymphatics following which the patient was further investigated for sarcoidosis, Mantaux test was 10mm. ACE levels were found out to be within normal limits.

Sputum sample was sent for AFB and cytological examination which came out to be negative. The bronchoalveolar lavage specimens were sent for AFB and bacteriological culture and sensitivity in microbiology and simultaneously to pathology department for AFB and cytology. The AFB were not seen and reported negative in both the departments. Cytology also did not reveal any malignant cells in the sample.

The gram staining of bronchoalveolar lavage had no pus cells but gram positive bacteria were seen. The bacteriological culture was put up on blood agar and Mac Conkey agar simultaneously. After 24 hours of incubation, more than 10 βeta haemolytic colonies appeared on blood agar but Mac conkey agar plate showed no growth. A gram stained smear of colonies was examined, which showed gram positive cocci in chains. A bacitracin sensitivity test was done, the colonies were sensitive with a zone size of 20mm. The

PYRase test was also done which was positive [5]. Thus, a diagnosis of Streptococcus pyogenes was made.

A throat swab was also taken for exclusion of throat carriage, the culture of which showed the growth of normal flora. Blood culture was also taken before starting antibiotics; the culture came out to be sterile.

The antibiotic susceptibility testing was also done in which the strain was shown to be sensitive to penicillin, amoxicillin + clavulinic acid, cefepime, erythromycin, azithromycin and ciprofloxacin . The patient was started on amoxyclav for five days. On fifth day patient was asymptomatic.

DISCUSSION

Group A streptococcus is uncommon cause of pneumonia that sometimes occurs as a secondary infection following acute viral infections. According to recent accounts, pneumonia has occurred in outbreaks in homes for the elderly and as sporadic infection in adults in the community, often in patients with medical risk factors such as diabetes or immunosuppression [6]. Group A streptococcal pneumonia in adults has not been widely reported except for some reviews and case reports from west.

The diagnosis of pneumonia is based on the typical clinical features of this disease, and can be established from the patient's history, the physical examination, the radiological , pathological and microbiological findings .The clinical presentation of streptococcal pneumonia is characterized by the abrupt onset of fever, chills, dyspnoea and productive cough as in the present case [6,7]. In our patient we were isolated the organism from broncoalveolar lavage, A throat swab was also taken for exclusion of throat carriage, the culture of which showed the growth of normal flora. Blood culture was also taken before starting antibiotics; the culture came out to be sterile. The presence of immunosuppression like sarcoidosis as observed in present case increase the risk of pneumonia. So there is a necessity to be extra cautious for diagnosis of such types of cases. For that clinicians and microbiologist working in cooperation can go a long way in decreasing mortality by taking timely action.

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