

PLEURAL EMPYEMA DUE TO GROUP A BETA-HEMOLYTIC STREPTOCOCCI IN AN ADULT

Sir,

A 66-year-old non-smoker, non-alcoholic male presented with left-sided pleuritic chest pain, dyspnea on climbing stairs and mild fever of 15 days duration. On examination, he had a blood pressure of 120/70 mmHg, pulse rate of 82/min, respiratory rate of 18/min and temperature of 37.2°C. Chest examination showed decreased breath sounds with dullness to percussion over the left lower chest and moderate tenderness on palpation of the left upper quadrant.

Laboratory studies revealed a total leucocyte count of $12.5 \times 10^3/\mu\text{l}$ (72% polymorphs, 26% lymphocytes, 2% eosinophils), hematocrit 38.4% and hemoglobin level of 14.1 g/dl. Notable laboratory findings were a fasting blood sugar level of 353 mg/dl with presence of ketones and sugars in the urine. An arterial blood gas analysis showed a pH of 7.37,

PaCO_2 27.6 mmHg and PaO_2 87.2 mmHg. A chest radiograph showed a small left pleural effusion. Thoracentesis was performed and thick, foul smelling, cloudy yellowish pus aspirated and sent for bacterial culture along with a blood sample. The patient was administered parenteral antibiotics (ceftriaxone, amikacin and vancomycin) and was also started on parenteral insulin for control of the blood sugar level. However, the chest pain and breathlessness worsened over the next 12 hours. A computed tomograph (CT) scan revealed a well-defined sharply marginated collection in the left hemithorax with thickened smooth walls and loculated effusion (155×139× 84 mm).

A diagnosis of left-sided pleural empyema was made and two chest tubes were inserted. Culture of the pus aspirate revealed pure growth of Group A beta-hemolytic streptococci (*Streptococcus pyogenes*). Blood culture was sterile. In a standard antimicrobial disc diffusion test, the organism was sensitive to ampicillin, ciprofloxacin, erythromycin and vancomycin. Thereafter, antimicrobial therapy with ampicillin was started and tube drainage continued. The patient improved gradually, his pleuritic pain subsided, pleural effusion resolved gradually and he was discharged on the thirteenth hospital day with advice of regular follow-up at the hospital.

Pleural empyema due to Group A beta-hemolytic streptococci (GABHS) is uncommon in the antibiotic era with cases described primarily in children and neonates.^[1,2] Group A streptococcal empyema in adults has not been widely reported except for some reviews and case reports from the West.^[3,4] We reviewed

the Medline in English language literature from 1966 for Group A streptococcal empyema in adults from the Asian subcontinent. The search uncovered only one previous study from Taiwan^[5] in which GABHS accounted for only 0.7% of thoracic empyema cases over a 10-year period.

A notable feature of the present case was the extensive empyema. *Streptococcus pyogenes* (GABHS) has been singled out as the cause of small pneumonia with extensive empyema.^[6] Of the anaerobes, the *Bacteroides* species in particular, has been associated with extensive empyema.^[6]

The clinical presentation of streptococcal pneumonia is characterized by the abrupt onset of fever, chills, dyspnea and productive cough. Pleuritic chest pain occurs in 75% of patients.^[5] The presence of comorbid conditions like diabetes, as observed in the present case, increases the risk of pleural space infections.^[5] Mortality is generally low with penicillin therapy and adequate drainage of empyema.^[5] The case reported here illustrates that the importance of GABHS as a cause of pleural empyema among adults should be more widely appreciated. Greater caution and timely action need to be exercised in patients with compromised host defenses.

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