

Escherichia Coli in Pleural Space – Rare Isolation

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Abstract: Escherichia coli (E. coli) are commonly isolated in patients with urinary tract infections, meningitis, cholecystitis and travellers diarrhea. Isolation in pleural space is very rare. Here we report a case of E. coli causing multiloculated empyema requiring 12F pigtail insertion inside the largest loculation, aggressive treatment with appropriate antibiotics and decortication.

Keywords: Escherichia coli, Pleural empyema, Pigtail drainage.

INTRODUCTION

E. Coli is a gram negative which commonly causes urinary tract infections, travellers diarrhea, meningitis and cholecystitis. It is commonly seen in large intestine [1]. But E. coli causing pleural empyema is very rare. Empyema due to E. coli occurs because of spontaneous bacterial empyema, parapneumonic empyema and colopleural fistula [2].

CASE REPORTS

A 52-year-old man was admitted with complaints of shortness of breath, cough with mucoid expectoration and fever for the duration of 20 days. He also complained of loss of appetite and loss of weight. Patient had no history of chest pain, wheeze or previous tuberculosis infection. He is neither a smoker nor an alcoholic. Not a diabetic and hypertensive.

Blood investigation showed increase in total counts with normal LFT, RFT, and Serum electrolytes. HbA1C was normal. His HIV was non reactive. USG abdomen was normal. Chest X ray PA view showed multiple air fluid levels in the left hemithorax. CT Thorax showed features of multi loculated empyema for which 12F pigtail was inserted under ultra sound guidance inside the largest loculation. Aspirated pus sent to culture grew Escherichia coli. Sputum AFB

showed no AFB while Sputum culture grew E. Coli. Patient was treated with intra venous piperacillin with tazobactam, which was sensitive. After two days of 12F pigtail drainage, his drain was around 2.2 Liters. Repeat chest X-ray did not show any major improvement hence cardio thoracic surgeon opinion was obtained who advised decortication. After the procedure patient improved and was discharged in good condition.

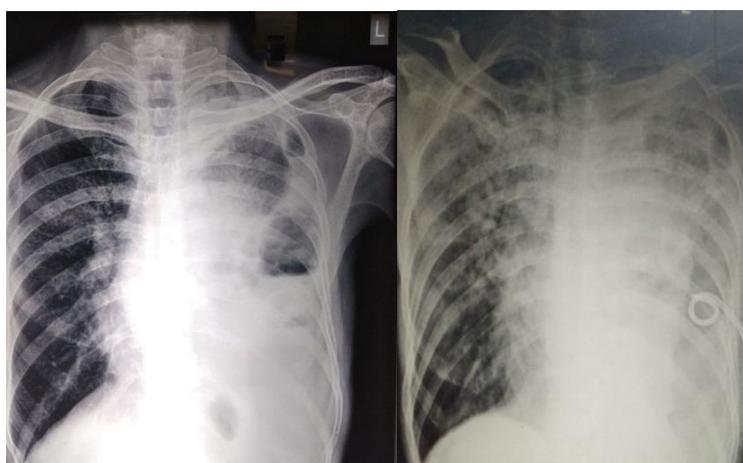


Fig-1: CXR Before and After Pigtail Insertion

DISCUSSION

Empyema is defined as the presence of pus in the pleural space, which resolves only with appropriate antibiotic or by drainage or by decortication. Microbiological profile of pleural infections depends upon the environmental factors, host factors and source of infection [3]. Pulmonary infections because of E. Coli are very rare [4]. 10% of hospital acquired pulmonary infections can be because of E. Coli [5]. Very rarely they can be community acquired and are seen in patients who are immunocompromised (diabetics, alcoholics, HIV infection, end organ damage) [1]. E. Coli pneumonia usually manifests as the pneumonia of the lower lobes and can be complicated by empyema requiring more aggressive treatment [6]. Isolation of E. Coli from pleural space is uncommon. Empyema in healthy individuals is caused by staphylococcus aureus, streptococcus pneumoniae, S. pyogenes and Klebsiella pneumonia [3]. E. Coli infection in pleural space occurs because of spontaneous bacterial empyema, parapneumonic empyema and colopleural fistula. In the past mortality because was around 30 to 50% whereas now it ranges between 1 to 10%. The most likely reason for this decline in mortality rate may be due to improvement in antibiotics therapy [2].

CONCLUSION

Here we report a case of E. Coli causing pulmonary infection involving both parenchyma and pleura in a healthy individual with no underlying co morbid condition and with no history of previous hospital admissions.

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