

Green Pleural Fluid: An Uncanny Encounter

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Abstract

Pleural effusions a commonly encountered case in clinical practice, warrants investigation via thoracentesis, after a comprehensive physical and radiological workup [1]. Green pleural fluid is rarely seen in clinical practice and a case showing the same is portrayed in this report.

Introduction

Pleural effusion can have variety of colours based on the cause or underlying pathophysiology. It can range from being straw coloured in parapneumonic effusions/transudates, to chylous in neoplasms/tuberculosis/amyloidosis, to bloody as in trauma/pulmonary embolism. The proper treatment of pleural effusion can be done after meticulous differential diagnosis [2]. Purulent pleural effusion is generally found in Empyema and tuberculosis. But green coloured pus is a rare scenario, documented only in a post-traumatic bilothorax [3]. The current case shows a different scenario.

Case

A 40-year-old male, who was a chronic smoker and alcoholic for 20 years and a cocaine abuser 5 years who presented to the medicine emergency of Government Medical college and Hospital Chandigarh, with complaints of shortness of breath for 1.5 months which exacerbated over the last 4 days and

right pleuritic sided chest pain x 4 days and fever (high grade, 102F) and cough with mild expectoration x 4 days. It was not associated with wheeze, or haemoptysis, swelling in the lower extremities, weight loss or anorexia. There was no history of any significant comorbidities. He had no history of tuberculosis or contact history of tuberculosis, or any known comorbidities. General physical examination was unremarkable. Chest X Ray done on admission was suggestive of right sided moderate pleural effusion. Pleural tap done under Ultrasound guidance was done showing a green coloured thick and viscous fluid which was suggestive of full field pus cells in the fluid with gram staining showing gram positive cocci in chains(?streptococci) , and fluid protein 2.1gm%, fluid ADA 147 IU/L, glucose 10. Patient was started on broad spectrum antibiotics after sending 3 sets of blood cultures and pus cultures. An Intercostal tube was inserted in view of empyema and the tube started draining frank green pus. Patient started showing clinical improvement

on broad spectrum antibiotics (injection piperacillin tazobactam) on day 2 and day three of therapy. Antitubercular therapy was not started during stay. Blood cultures sent were sterile after 5 days of incubation as well as pus cultures and sputum cultures showed mixed flora. 2D Echo done to rule out infective endocarditis was suggestive of a normal ejection

fraction and no evidence of vegetation, clot, pericardial effusion. On day 5 of admission, ICD was removed after no evidence of pleural effusion and fully expanded lung. ICD was removed subsequently after pulmonology consult and patient was discharged on oral antibiotics.



Figure showing the Chest x ray of the patient at presentation



Figures showing the Intercostal drainage bag showing the green pus

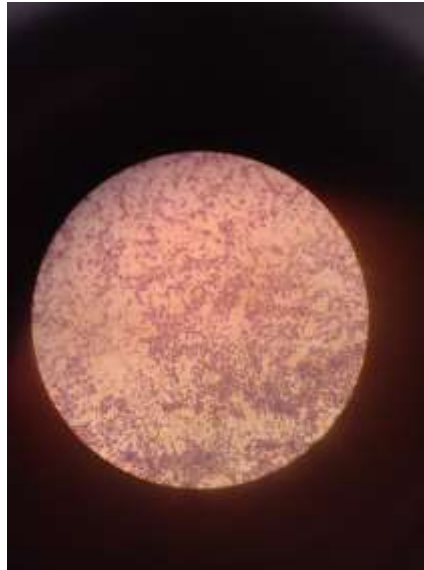


Figure showing gram positive cocci in chains seen in gram stain of pleural fluid

Discussion

Pleural fluid is analysed based on Light's criteria to be transudative or exudative. These can be done by analysing the protein and albumin gradients between pleural fluids and serum [4]. Exudative pleural effusions are due to malignancy, pneumonia, tuberculosis, pulmonary embolism, pancreatic pseudocysts, intraabdominal abscesses [5]. When chylothorax is suspected then pleural fluid cholesterol and triglycerides play a role; whereas when even after pleural fluid analysis the cause remains doubtful, a three dimensional scanning, followed by thoracoscopy and pleural biopsy is recommended.

Green pus instantaneously reminds of a Pseudomonal infection [6]. But this case rarely showed the presence of gram positive cocci in chains in the gram stain from the pus once aspirated which in all likelihood would be streptococci which is a rare and undocumented case scenario.

Conclusion

Purulent pleural effusions although very commonly seen, should always be investigated to find out the cause. Cause based management should be instigated. The case scenario

shows a case of a common organism exposing itself in a different way.

Conflicts of interest: None

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