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Research Article

A Case Report on Sympneumonic Effusion

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ABSTRACT
A case of Sympneumonic effusion, a condition in which pleural effusion is associated with pneumonia is reported here. The patient was presented with the shortness of breath, cough. He also had atelectasis changes in right middle lobe and a patchy consolidation in left lower lobe. Generally this is caused due to bacterial infection of streptococcus species .Which can be treated with general pneumonia treatment, includes antibiotics, oxygen supply and other supportive care.

Keywords: Sympneumonic effusion, atelectasis, consolidation, streptococcus species.

INTRODUCTION
An excessive fluid accumulation with in the pleural cavity (the fluid filled space that surrounds the lungs) is known to be pleural effusion[1]. The excessive accumulation of this fluid leads to difficulty in breathing due to limitation in the expansion of lungs[2]. A condition called Sympneumonic effusion occurs when pleural effusion co-exists with pneumonia. This condition may occur due to several reasons infection, trauma, pulmonary infraction, ruptured esophagus, etc[3]. This can be diagnosed based on medical history, physical examination, and chest x-ray can be used for the confirmation[4]. The treatment is based on the underlying case of the Sympneumonic effusion[3] .If the effusion larger then ,it requires intercostal drain to remove the excessive fluid[3].

Case report
A 40year old patient was admitted with complaints of left chest pain, cough and grade III shortness of breath. Patient was a middle aged women with height of 150cm , weight 45kgs and body mass index of 21.47kg/m^2 .
On physical examination pulse rate was 88b/m, temperature was 98.4° F, blood pressure was 110/60mm of hg , partial pressure of oxygen is 98%.The abnormal lab data were Heamoglobin of 11.6g/Dl, Red blood cell count of 13,900/cmm , Packed cell volume of 29%, Mean corpuscular volume of 77fl , Mean corpuscular hemoglobin concentration of 39 Erythrocyte sedimentation rate of 35mm/Hr , Lymphocytes of 18% , Eosinophilles of 8%.
The evidence of chest X-ray and ultrasound scan showed a clear report of left sympneumonic effusion.

Fig.1: X-Ray showing left sided pleural effusion

Fig.2: Ultra sound scan showing left sided pleural effusion

DISCUSSION
Sympneumonic Effusion is the pleural reaction against the organism causing Community

Acquired Pneumonia. And this does not need any extra treatment other than Pneumonia treatment. But Para pneumonic Effusion or empyema needs ICD tube placement. There are various Gram positive bacteria like streptococcus pneumoniae, Staphylococcus, Legionella, Chlamydia, Viruses and even Fungus may cause pneumonia. Ideal treatment is treatment of the cause and controlling comorbid conditions like Diabetes mellitus. The pleural space normally contains 0.1–0.2 ml/kg body weight of fluid, filtered from systemic capillaries down a small pressure gradient. Fluid drains into the systemic circulation via a delicate network of lymphatics and eventually enters the mediastinal lymph nodes. Fluid may accumulate in the pleural space due to obstructed lymphatic flow because of infection caused by the parasitic organisms. This includes the symptoms such as chest pain while breathlessness and cough. In general the simplest and most widely available method for the investigation of a pleural effusion is chest radiography and this should be performed initially in all patients with a newly suspected effusion. Traditionally the domain of radiologists, ultrasonography is now considered the ideal procedure for the confirmation and localization of pleural fluid and has been increasingly adopted .The antibiotics may be used are Clarithromycin, Azithromycin, Tetracycline, Ceftriaxone, Cefoparazone, Cefotaxim, Cefuroxime, and aminoglycosides.

Treatment

Pleural effusion frequently accompanies acute bacterial pneumonia. The incidence of sympneumonic effusion is dependent upon the infecting organism.Antibiotic choice for sympneumonic effusions and pneumonia is aimed at the specific pathogens' susceptibility if this data is available. Gram staining will also help narrow the spectrum. Broad spectrum antibiotics are first employed until gram stain and culture data is available. Appropriate choices should cover gram negatives, gram positives, and anaerobic bacteria. The third generation cephalosporins, extended spectrum beta lactams, aminoglycosides, imipenem, and aztreonam will all cover gram negative bacteria well. As methicillin resistant S. aureus becomes increasingly prevalent vancomycin should be used to treat gram positive cocci. Clindamycin is the best choice for anaerobic infections. When the symptoms are severe to provide an immediate relief thoracocentesis may be done .

CONCLUSION

Sympneumonic effusion is commonly associated with pneumonia which is due to obstructed lymphatic flow by which accumulation of fluids in the pleural space occurs because of infection caused by the parasitic organisms. Generally this can be cured by treating the pneumonia some times thoracocentesis is done to provide early relief from the severity of symptoms.

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