PLEURAL EFFUSION AND DISORDERS OF
THE PLEURA

Thoracic amoebiasis: An astonishing coexistence with small cell anaplastic carcinoma

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Background: Infection by E. Histolytica, a protozoan parasite is prevalent worldwide with maximum incidence in Central and South America, Africa, and the Indian subcontinent. Colonic amoebiasis is most common presentation among intestinal amoebiasis and amoebic liver abscess followed by thoracic amebiasis, as the most common extraintestinal amoebiasis.

Case Study: A 65-year-old lady presented with cough for 2 months and shortness of breath for 1½ months along with history of chest pain for 1½ months. Family history revealed death of one of her 3 son following surgery for cancer. Examination revealed reduced air entry on left hemithorax. Chest X ray showed left side massive effusion. Thoracostomy tube was placed. Pleural fluid on
investigation revealed small cell anaplastic carcinoma on malignant cytology and also amoebic trophozoites.

**Discussion:** Various organisms like candida have been reported to be associated with malignancies. Neutropenia following extensive chemotherapy makes them prone to severe infections. Entamoeba is rarely reported as secondary infection over carcinoma. Till date very few case of concomitant E. Histolytica infection with malignancy have been described.

**Conclusion:** In cases of malignancy we should be vigilant for super added infections and be watchful for patients belonging to endemic areas.

**Rapid score as a prognostic factor for patients with empyema in a tertiary care center**

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**Background:** Empyema refers to a collection of pus within the pleural space, which develops when pyogenic bacteria, fungi, parasites, or mycobacteria invade the pleural space, either from an adjacent pneumonia or from direct inoculation. The RAPID scoring system helps to predict the outcome of empyema patients comprises of renal function, age, purulence, infection source and dietary factors.

**Methods:** In this prospective observational study, we evaluated 61 patients with empyema admitted between August 2020 to October 2021 and assessed length of hospital stay, need for surgical intervention and in-hospital mortality stratified by RAPID scoring system as low (0–2), medium (3–4), and high-risk (5–7).

**Results:** Of the total 61 patients, 40 patients (65.6%) come under low risk, 18 patients (29.5%) under medium risk and 3 patients (4.9%) under high risk. Major symptoms being breathlessness (100%), fever (83.6%) and cough (80.3%). Mean length of hospital stay was found to be 12, 10 and 11 for low, medium and high risk categories respectively. Mortality rate was 27% in medium risk when compared to 5% in low risk. Surgical intervention was needed in 3 (4.9%) patients.

**Conclusion:** From this study, it has been concluded that RAPID score can be utilized as a robust tool in identifying the risk of mortality and length of hospital stay in patients with empyema.

**Neutrophil-lymphocyte ratio in serum and pleural fluid as prognostic factors in malignant pleural effusion**

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**Background:** The utility of serum neutrophil-to-lymphocyte ratio (sNLR) as a useful prognostic factor in different types of cancer has been known and studied in recent years.

**Objective:** To study the clinical impact of serum NLR (sNLR) and NLR in pleural fluid (mNLR) as prognostic factors in malignant pleural effusion.

**Methods:** Patients attending Government Chest Hospital and diagnosed with MPE were reviewed retrospectively. The relationship between sNLR and mNLR value with survival were investigated.

**Results:** A total of 120 patients with a mean age of 55±10 were included in the study. Patients with mNLR value >0.41 (p value<0.001) and/or sNLR value >4.68 (p value <0.024) had a shorter survival. Multivariate analysis showed that survival was significantly related to mNLR >0.41 (Odds ratio 5.93 95% CI p value 0.027) and sNLR>4.68 (Odds ratio 6.73 95% CI p value 0.017).
Conclusion: mNLR and sNLR act as simple and cost effective prognostic factors in MPE as they help clinicians to predict the survival of patients with MPE at presentation and determine the appropriate therapy. Also these results maybe helpful in further research into the mNLR in the future.

Clinical profile of patients presenting with pneumothorax

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Background: A pneumothorax is presence of air in the pleural space, that is air between the lung and the chest wall. Pneumothoraces can be divided into spontaneous pneumothoraces, which occur without antecedent trauma or other obvious cause, and traumatic pneumothoraces, which occur from direct or indirect trauma to the chest. It is a common emergency condition that requires prompt treatment as delay may endanger patient’s life.

Methods: Hospital based prospective study conducted in a tertiary hospital of Himachal Pradesh, IGMC Shimla from November 2020 to October 2021. Every consecutive patient of pneumothorax was included in the study; detailed history, examination and investigations were done. Patients were divided into primary spontaneous pneumothorax (PSP), secondary spontaneous pneumothorax (SSP), traumatic- non iatrogenic and traumatic- iatrogenic pneumothorax groups.

Results: 111 patients were included. Most of them presented with SSP (67.57%) followed by traumatic-iatrogenic (20.72%), PSP (8.11%) and traumatic-non iatrogenic (3.60%). Pneumothorax was more common among men with overall male to female ratio of 3.4:1. The most common cause of SSP was found to be tuberculosis (44%) of which 48.48% had active tuberculosis. The most common cause of traumatic pneumothorax is iatrogenic, percutaneous procedure (66.67%) being the most common. Pneumothorax was more common among men with overall male to female ratio of 3.4:1. The most common cause of SSP was found to be tuberculosis (44%) of which 48.48% had active tuberculosis. The most common cause of traumatic pneumothorax is iatrogenic, percutaneous procedure (66.67%) being the most common.

Conclusion: Spontaneous pneumothorax is more common than traumatic pneumothorax. Pneumothorax is more common among men. Tuberculosis is the most common etiological factor for SSP and percutaneous procedure for traumatic pneumothorax.

Pleural manifestation of connective tissue disorders: A case series

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Background: Burden of connective tissue disorders (CTDs) in Indian subcontinent is very high and pleural involvement is a major cause of morbidity and mortality in these patients. Pleural involvement can present in multiple ways in different CTDs like pleurisy, pleural effusion, pneumothorax, interstitial lung disease.

Case Study: In this case study we are presenting four cases of three different CTDs i.e rheumatoid arthritis, systemic lupus erythematosus and scleroderma that visited us in the opd. Patients underwent detailed evaluation and relevant investigations were done.

Case 1: Rheumatoid arthritis with pleural effusion.
Case 2: Rheumatoid arthritis with Pleurisy and ILD (UIP).
Case 3: Systemic lupus erythematosus with pneumothorax.
Case 4: Scleroderma with ILD (fibrotic NSIP).

We compared and discussed the onset, duration, progression of disease and how it affected the quality of life through different clinical and radiological parameters.

Discussion: In this study we found that onset of pleural involvement is a late manifestation of all CTDs and can manifest as pleurisy, pneumothorax, pleural effusion and interstitial lung disease. Extent and type of Pleural presentation are useful predictors of prognosis in different CTDs.

Conclusion: We concluded that involvement of pleura and its type of manifestation play a major role in determining the burden of morbidity and mortality associated with CTDs.

Early recognition of pleural involvement and timely intervention can increase the life expectancy in CTDs.

Pancreatic pleural effusion: A diagnosis not to be missed in pulmonary tuberculosis

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Background: Pancreatic pleural effusion is a rare condition and is defined as significant fluid accumulation in the pleural space with high amylase content. It has been predominantly seen in alcoholic middle-aged men who usually present with dyspnea and a left-sided pleural effusion. Rarely, it can present with right-sided or bilateral pleural effusions.

Case Study: A 28 year old male who is chronic alcoholic and smoker with no co-morbidities presented with history of cough with expectoration, breathlessness, right sided chest pain since 1 month associated with loss of appetite and weight. Detailed examination, blood workup, imaging studies, pleural fluid analysis were done. Patient has been diagnosed to be with MDR pulmonary tuberculosis with right sided pancreatic pleural effusion secondary to pancreatic pseudocyst. ATT and appropriate management of pancreatic effusion has been done. Patient was improved symptomatically and radiologically.

Conclusion: Right-sided pleural effusion in the setting of pancreatitis is rare and occurring in patient who is already diagnosed to have tuberculosis can be difficult as tuberculous pleural effusion would be our first probable diagnosis. Pancreatitis should be taken into consideration.
when black pleural effusion occurs, especially when it has elevated amylase level. Lack of awareness can result in delay in the diagnosis and morbidity. Hence, physicians should also rule out other causes of pleural effusion in pulmonary tuberculosis.

**Pleural manifestation of connective tissue disorders: A case series**

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**Background:** The incidence of empyema is increasing in both children and adults; the cause of this surge is unknown. Thus an effort was made to study the profile of Empyema thoracis cases in relation to their demography, clinical features, microbiological cultures and antibiotic sensitivity among patients and we might frame and recommend some remedial measures to counteract it.

**Methods:** 102 patients of empyema thoracis were enrolled and followed up till the end of the study and demography, clinical features, microbiological cultures and corresponding antibiotic sensitivity were analysed.

**Results:** Males female ratio was 5.25:1 and the affected age group being 18 to 40 years. Smoking and alcohol consumption were significant risk factor and Co morbidities like diabetes, liver abscess plays an important role in in development of empyema thoracis. Patients most commonly presented with cough, chest pain, dyspnea, and loss of appetite. Most common etiology for empyema thoracis was tuberculosis followed by pyogenic infection (including, pseudomonas was the most common bacteria isolated from pus culture, followed by klebsiella and staphylococcus aureus.). Major radiological feature include pleural thickening, loculations, consolidations and mediastinal/ tracheal shift and mild to moderate amount of pleural collection. Twenty-two patients had sterile culture because of prior use of antibiotic therapy. Eighteen patients with tubercular empyema had additional INH and RIF resistance.

**Conclusion:** Empyema is a complex entity with multifactorial pathogenesis and etiology (mainly tubercular), and clinicians should be mindful in recognizing different stages of the disease as resistance is increasing. Rapid diagnosis is essential to successful treatment and patient's survival.