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An observational study on clinical Profile of Patients with Tuberculous Pleural Effusion.

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Abstract

Background: The prognosis of tuberculous pleural effusion is by demonstration of the causative organism that is mycobacterium tuberculosis. Biochemical investigations like pleural fluid ADA which is shed by way of the lymphocytes is very non-specific. It is raised in other prerequisites like empyema, lymphoreticular malignancies, bronchogenic carcinoma, rheumatoid arthritis and tuberculosis (TB). The purpose is to find out about the scientific profile of patients with tuberculous pleural effusion. **Methods:** A study used to be carried out on 60 sufferers at a public hospital. The sufferers had been requested a special history with regards to chest pain and its nature, dyspnoea, cough, fever and constitutional symptoms. Also specific past history about pleural tuberculosis and pleural aspiration/ICD insertion and AKT records was once taken. Patients had been then subjected to a scientific examination, which included a thorough widespread examination and distinctive respiratory system examination in phrases of reduce in actions of the chest on any unique side, bulge on any unique side, stony stupid observe on percussion, presence of transferring dullness, and limit in breath sounds with limit in vocal resonance. Patients were later subjected to an X ray examination for affirmation of the diagnosis. In some patients ultrasonography of the chest was once completed specially in loculated effusion for factor marking. After confirming the diagnosis, patients have been subjected to a transthoracic pleural aspiration the usage of all aseptic precautions. **Results:** Most of the sufferers belonged to age group between 15-45 years i.e. 47 (78.33%). Thus the incidence in elderly age crew used to be discovered to be much less (21.67%). The symptom evaluation of 60 sufferers printed that almost all these patients had chest pain as predominant symptom (98%) observed through dry cough and dyspnoea on exertion, 98% and 88% respectively. The constitutional symptom such as loss of appetite was once existing in 93% of patients and weight loss in 85% of patients. The average period of signs was once 56.57 days. Right sided pleural effusion was extra frequent than left side. There had been no instances of bilateral pleural effusions at any given factor of time during learn about length. **Conclusion:** Most common presentation of tuberculous pleural effusion was chest pain. Right sided pleural effusion was greater frequent than left aspect.

Keywords: Clinical profile, Tuberculosis, Pleural effusion.

INTRODUCTION

The diagnosis of tuberculous pleural effusion is by demonstration of the causative organism that is mycobacterium tuberculosis. Biochemical investigations like pleural fluid ADA which is shed by the lymphocytes is very non specific. It is raised in other conditions like empyema, lymphoreticular malignancies, bronchogenic carcinoma, rheumatoid arthritis and tuberculosis (TB).[1,2] Pleural biopsy can give the diagnosis but is an invasive and painful procedure with the risk of pneumothorax. When reviewing data regarding yield of pleural biopsy, it is important to distinguish histopathologic demonstration of granuloma from growth of M. tuberculosis in a culture of biopsy, though either is generally accepted as diagnostic. Certain clinical conditions like TB, plague, fungal infections, rheumatoid arthritis, and sarcoidosis may cause difficulty in distinguishing them histopathologically because of certain common feature. Pleural fluid acid fast bacilli (AFB) smear is positive in less than 10% of cases. This phenomenon has been attributed to low bacillary counts in the fluid and the diminished likelihood of recovery of AFB in the absence of apparent parenchymal disease. Also the tuberculin test is negative in about 30% of patients because of the aggregation of T lymphocytes at the site of pleural focus. Diagnostic tests like PCR are too expensive and unaffordable for the common man. Hence it becomes very important to use less expensive and reliable tests like culturing the mycobacteria. Culture yield of mycobacteria from pleural fluid is less than 30%.[3].

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MATERIAL AND METHODS

A study was conducted on 60 patients at a public hospital. The patients were asked a detailed history with regards to chest pain and its nature, dyspnoea, cough, fever and constitutional symptoms. Also detailed past history about pleural tuberculosis and pleural aspiration / ICD insertion and AKT history was taken. Patients were then subjected to a clinical examination, which included a thorough general examination and detailed respiratory system examination in terms of decrease in movements of the chest on any particular side, bulge on any particular side, stony dull note on percussion, presence of shifting dullness, and decrease in breath sounds with decrease in vocal resonance. Patients were later subjected to an X ray examination for confirmation of the diagnosis. In some patients ultrasonography of the chest was done especially in loculated effusion for point marking.

Inclusion criteria:

All clinically suspected tuberculous pleural effusion having exudative character by Light's criteria and which on gram stain examination show no organisms

Exclusion criteria:
Those patients having parenchymal lesions on X ray chest
Those patients having hydro pneumothorax.

RESULTS

Most of the patients belonged to age group between 15-45 years i.e. 47 (78.33%). Thus the incidence in elderly age group was found to be less (21.67%) [Table 1].The symptom analysis of 60 patients revealed that almost all these patients had chest pain as predominant symptom (98%) followed by dry cough and dyspnoea on exertion, 98% and 88% respectively. The constitutional symptom such as loss of appetite was present in 93% of patients and weight loss in 85% of patients [Table 2].

Table 1: Age and sex distribution of patients

Age group (years)	Male	Female	Total
15-25	14	6	20
25-35	13	3	16
35-45	8	3	11
45-55	2	3	5
55-65	2	1	3
65-75	4	1	5
Total	43 (71.66%)	17 (28.33%)	60 (100%)

The average duration of symptoms was 56.57 days. Right sided pleural effusion was more common than left side. There were no cases of bilateral pleural effusions at any given point of time during study period.

Table 2: Distribution of study subjects as per their symptoms

Symptoms	Number	%
Chest pain	58	98
Dry cough	58	98
Dyspnoea	50	88
Fever	56	93
Loss of appetite	56	93
Loss of weight	51	85

Table 3: Distribution of study subjects as per their average duration of symptoms

Symptoms	Mean duration (days)
Chest pain	75.206
Breathlessness	56.57
Dry cough	70.327
Fever	63.79

DISCUSSION`

Pleural TB is a pauci bacillary infection. The diagnosis of pleural TB depends on the clinical history and pleural fluid characters such as lymphocytic predominant exudative pleural effusion with sugar low but, usually more than 40 mg/dl and ADA above cut off 47-53 units/L.[2]
The definitive diagnosis of pleural TB still rests with demonstration of causative organisms either on direct microscopy or in the culture of the pleural fluid. The culture of pleural biopsy specimen from untreated tuberculosis pleural effusions has yield of 80%. Culture of pleural fluid, biopsy culture and histopathology of pleural biopsy give a yield of 90-97%.[1,2]
Certain clinical conditions like TB, plague, fungal infections, rheumatoid arthritis, and sarcoidosis may cause difficulty in distinguishing them histopathologically because of certain common features. The combined yield of direct acid fast smears of pleural fluid and pleural biopsy tissue along with culture of fluid and tissue exceeds 90%.[4,5]
In this study, the incidence of pleural effusion is seen in young individuals. Mean age of presentation was 15-45 years. The incidence declines after age advances. This is what has been in contrast to western countries where the incidence increases after age advances because of low endemicity leading to infection at later age of life. The symptom analysis has revealed that predominant symptoms are pleuritic chest pain (98%), loss of appetite (93%), followed by dyspnoea (88%) and fever (85%).
Our study has shown that right sided effusions were a little more as compared to left sided effusions. There were no cases of bilateral effusions seen.

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