ORIGINAL ARTICLE

PRESENTATIONS OF TUBERCULOSIS IN NORTHERN PAKISTAN

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Background: Tuberculosis (TB), which is a very common droplet infection. If untreated, the disease may be fatal within 5 years in more than half of cases. The aim of this hospital based descriptive study was to see mode of its presentation in our set-up. **Method:** The study was conducted in Medical Unit, Ayub Teaching Hospital, Abbottabad and 500 diagnosed cases of tuberculosis were included in this study. History regarding presenting symptoms, age, sex, etc. was taken. **Results:** Out of the 500 patients, 277 (55.4%) were male and 223 (44.6%) were female. Two-hundred-three (40.5%) were in age group 21–35 years, 136 (27.1%) were in age group 36–50 years, 141 (28.1%) were in age group 51–65 years while 20 (4%) were above 65 years of age. Three-hundred-and-eighty (76%) presented as Pulmonary TB, 47 (9.4%) as Abdominal TB, 45 (9%) as TB Meningitis, 13 (2.6%) as Pott's Disease, 7 (1.4%) as TB Lymphadenitis, 6 (1.2%) as Constrictive Pericarditis, 1 (0.2%) as Psoas Abscess and 1 (0.2%) as TB Orchitis. **Conclusion:** TB in its various forms remains a killer disease in our part of the world. The commonest presentation is Pulmonary TB which is probably due to three major factors namely poor hygienic practices, late diagnosis and non-compliance.

Keywords: Tuberculosis, Acid Fast Bacillus, Pott's disease, Psoas Abscess, Non-Compliance

INTRODUCTION

Tuberculosis (TB) is caused by Mycobacterium Tuberculosis. It is a very common infection, especially in the northern areas, and is one of the oldest diseases known to affect humans. The disease usually affects the lungs, although other organs are also involved. If properly treated, tuberculosis caused by drug-susceptible strains is curable in virtually all cases. If untreated, the disease may be fatal within 5 years in more than half of cases.[1,2]

More than 3.8 million new cases of tuberculosis of all forms (pulmonary and extra pulmonary), 90% them from developing countries were reported to the World Health Organization (WHO) in 2001.[2] It is estimated that 8.5 million new cases of tuberculosis occurred worldwide in 2001, 90% of them in developing countries of Asia (5 million) Africa (2 million), Middle East (6 million), and Latin America (0.4 million). It is also estimated that 1.8 million deaths from tuberculosis occurred in 2000, 98% of them in developing countries.[3,4]

Mycobacterium tuberculosis is most commonly transmitted from a patient with infectious pulmonary tuberculosis to other persons by droplet nuclei, which are aerosolised by coughing, sneezing, or speaking. The tiny droplets dry rapidly; the smallest (<10 m in diameter) may remain suspended in the air for several hours and may gain direct access to the terminal air passages when inhaled. There may be as many as 3,000 infectious nuclei per cough.[4]

The risk of acquiring Mycobacterium tuberculosis infection is determined mainly by exogenous factors, like the probability of contact with a case of tuberculosis, the intimacy and duration of that contact, the degree of infectiousness of the case, and the shared environment of the contact. Over crowding in poorly ventilated rooms is one of the most important factors in the transmission of tubercle bacilli, since it increases the intensity of contact with a case.

Greatest chances of transmission are from those tuberculosis patients who are Open Cases, whose sputum contains Acid Fast Bacillus (AFB). These patients often have cavitatry pulmonary disease or tuberculosis of the respiratory tract (endo-bronchial or laryngeal tuberculosis) and produce sputa containing as many as 105 AFB/mL. Patients with sputum smear-negative/culture-positive tuberculosis are less infectious, and those with culture-negative pulmonary disease and extra pulmonary tuberculosis are essentially non-infectious.[5]

Once Mycobacterium tuberculosis has been transmitted, the risk of developing disease depends largely on endogenous factors. These include the individual's innate susceptibility to disease and level of function of cell-mediated immunity.

In the early stages of infection, bacilli are usually transported by macrophages to regional lymph nodes, from which they disseminate widely to many organs and tissues. The extra pulmonary sites most commonly involved in tuberculosis are the lymph nodes, pleura, genitourinary tract, bones and joints, meninges, peritoneum, and pericardium. However, virtually all organ systems may be affected.[5]

Primary TB is symptomless in the majority of individuals. In a few there may be a vague illness, mild cough and wheeze. A transient plueral effusion may develop or occasionally Erythema Nodosum indicating hypersensitivity to the disease process. The patient can present with vague symptoms like evening pyrexia, weight loss, general ill-health, increased

night sweats, weight loss and lassitude. Specific symptoms depend on the site of involvement.

MATERIAL AND METHODS

This study was conducted in the Department of Medicine, Ayub Teaching Hospital, Abbottabad. Our subjects consisted of 500 consecutive patients who were admitted to the medical units from Out Patient Department with suspected tuberculosis and were confirmed to be suffering from the disease, on the basis of presentation and investigations. Informed consent was taken from the patients or their care-givers before including them in the study.

The diagnosis in these patients was confirmed by a positive Tuberculin test, raised ESR, relative lymphocytosis, chest x-ray, presence of AFB in sputum, positive culture of any relevant body fluid, an exudative ascites or effusion, ICT, Barium Meal and follow through with positive findings, lymph node biopsy, CSF examination, CT scan of relevant area or PCR.[5,6]

RESULTS

Out of the 500 patients 277 (55.4%) were male and 223 (44.6%) were female. Two hundred and three (40.5%) were in age group 21–35 years, 136 (27.1%) were in age group 36–50 years, 141 (28.1%) were in age group 51–65 years while 20 (4%) were above 65 years of age. Three hundred and eighty (76%) presented as Pulmonary TB, 47 (9.4%) as Abdominal TB, 45 (9%) as TB Meningitis, 13 (2.6%) as Pott's disease, 7 (1.4%) as TB Lymphadenitis, 6 (1.2%) as Constrictive Pericarditis, 1 (0.2%) as Psoas Abscess, and 1 (0.2%) as TB Orchitis.

Table-1: Demographic data of the patients (n=500)

Variable	Number	Percentage
Gender		
Male	277	55.4
Female	223	44.6
Age in Years		
21–35	203	40.5
36–50	136	27.1
51–65	141	28.1
>65	20	04
Type of TB		
Pulmonary	380	76
Abdominal	47	9.4
Pott's Disease	13	2.6
Lymphadenitis	7	1.4
Meningitis	45	9
Pericardial Effusion	6	1.2
Psoas Abscess	1	0.2
Orchitis	1	0.2

DISCUSSION

Tuberculosis is a major cause of preventable infectious disease and death in the world. Timely diagnosis and proper chemotherapy are the mainstays of treatment.

The diagnosis of TB can be easily missed and this is especially true in cases of Extra-pulmonary TB.[7,8] Though Pulmonary TB still remains the most common presentation the incidence of Extra-pulmonary TB is increasing. The diagnosis of Extra-Pulmonary TB is often difficult. Differential diagnosis includes a variety of infectious conditions as well as neoplastic diseases such as lymphomas or met static carcinomas.

The median patient delay (elapsed time from symptoms to medical consultation) and provider delay (elapsed time from medical consultation to treatment) can be 20–55 days, respectively. The longevity of patient delay is associated with positive sputum smear and culture, and more extensive radiological disease.[8]

Chemotherapy aims at interrupting the transmission of TB from patient to patient by making the recipient non-infectious. It also reduces the morbidity and mortality associated with disease in the person being treated. There is a difference in treatment regimen in patients with Extra-Pulmonary TB. At least three drugs are given for the first two months of course. In areas where primary resistance to INH occurs, four drugs are given. During this phase the majority of mycobacteria are killed, symptoms resolve and the patient becomes non-infectious. Steroids are also given in selected patients to prevent long term complications, e.g., hydrocephalous, acute intestinal obstruction or decrease pressure on nerves.[9]

Both pulmonary and extra-pulmonary TB can be treated for a period of 6 months. It is, however recommended that extra-pulmonary TB be treated for 10–12 months depending on the structure involved and the patient.[10,11]

Age is an important determinant of the risk of disease after infection. Among infected persons, the incidence of tuberculosis is highest during late adolescence and early adulthood, the reasons are unclear. The incidence among women peaks at 25–34 years of age. In this age group rates among women are usually higher than those among men, while at older ages the opposite is true. This pattern was followed by our study group. The small number of patients in the over 60 year group accounts for the decreased incidence in older age in our study.[12]

There was an overall higher incidence of Pulmonary TB. This could be due to the overall living conditions of our study group which was from the poor socio-economic class. In our setting predisposing factors are nearly always present therefore, education and monitoring living conditions are critical for minimising this risk. Because of delays in seeking care and in diagnosis, it is estimated that up to 20 contacts may be infected by each AFB-positive case before detection in high-prevalence settings.

CONCLUSION

TB in its various forms remains a killer disease in our part of the world. The commonest presentation is Pulmonary TB which is probably due to hygienic practices and late diagnosis leading to spread of disease.

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