ORIGINAL ARTICLE

PROPORTION OF PULMONARY KOCHS IN EXTRAPULMONARY TUBERCULOSIS: A CROSS SECTIONAL STUDY IN AHMEDABAD CITY

Snehal R Patel[1], Jayesh P Modi[2]

Author's Affiliations: [1]Assistant Professor, Department of Medicine, GMERS Medical College, Valsad; [2]Consultant Physician, Patan, Gujarat.
Correspondence: Dr. Snehal R Patel, Email: vibhav_5739@yahoo.in

ABSTRACT

Background: It is a very common experience of many physicians that a good number of extrapulmonary tuberculosis patients are suffering from asymptomatic pulmonary koch's and many times it is diagnosed as a chance finding by chest X ray during routine investigation for general health check up or assessment for fitness purpose.

Methodology: The present study was the cross-sectional study conducted on the randomly selected cases of extrapulmonary tuberculosis. A pre-designed semi-structured questionnaire was used to find out the presence of respiratory signs suggestive of symptomatic or asymptomatic pulmonary tuberculosis. In all participants, chest X ray, sputum for Acid Fast Bacilli (AFB), Complete Blood Count (CBC), ESR was done to find out or support pulmonary tuberculosis pathology.

Results: Out of 140 patients of extrapulmonary tuberculosis 39.3% had pleural effusion, while almost similar number had abdominal Koch's (37.9%) in the form of ileo-caecal Koch's, mesenteric and para-aortic lymph nodes enlargement and tuberculous ascites. Pulmonary Koch's was found out in 20 patients i.e. 14.3% of patients.

Conclusion: Profile of pulmonary pathology in extrapulmonary tuberculosis is not very high. We found only a small proportion (14.3%) of patients having associated pulmonary Koch's that too was asymptomatic in majority (65%).Tuberculous pleural effusion and intestinal koch's are the two commonest forms of extrapulmonary involvement.

Key words: Extrapulmonary tuberculosis, pulmonary koch's, Acid fast bacilli

INTRODUCTION

Tuberculosis can involve any organ system in the body. While pulmonary tuberculosis is the most common presentation, extrapulmonary tuberculosis (EPTB) is also an important clinical problem[1,2]. The term EPTB has been used to describe isolated occurrence of of tuberculosis at body sites other than the lung. However, when an extrapulmonary focus is evident in a patient with pulmonary tuberculosis, such patients have been categorized under pulmonary tuberculosis as per the guidelines of the World Health Organization (WHO)[3].

Our study includes the effectiveness and necessity of sputum examination and pulmonary manifestations in patients of Extrapulmonary Tuberculosis. It is a very common experience of many physicians that a good number of extrapulmonary tuberculosis patients are suffering from asymptomatic pulmonary koch's and many times even pulmonary koch's is diagnosed as a chance finding by chest X ray which has become routine investigation for general health check up or assessment for fitness purpose.

The present study were based on the objective to find out the status of lung pathology i.e. symptomat-

ic or asymptomatic presence of pulmonary Koch's in those patients who presented clinically as solely extrapulmonary symptoms and signs.

MATERIALS AND METHODS

The present study was the cross-sectional study conducted on the randomly selected cases of extrapulmonary tuberculosis. The diagnosis of Extrapulmonary Koch's was confirmed by relevant specific and non specific supportive investigation as the case may be. All such patients were interrogated in detail to find out presence of any pulmonary symptoms like dry cough or productive cough, chest pain, breathlessness. For this purpose a pre-designed semi-structured questionnaire was used which collected the specific data of pulmonary koch's. All the participants were examined in detail to find out the presence of respiratory signs suggestive of symptomatic or asymptomatic pulmonary tuberculosis. In all participants, chest X ray, sputum for Acid Fast Bacilli (AFB), Complete Blood Count (CBC), ESR was done to find out or support pulmonary tuberculosis pathology. All the patients were referred to DOTS programme for management and were treated as per their guidelines. The study conducted after permission of Institutional ethical committee. The participants were involved in the study after taking voluntary written informed consent. The data was analyzed using Microsoft Excel Software.

RESULTS

There were 140 cases presented with symptoms and signs of extrapulmonary tuberculosis during the study period. Age and gender distribution of cases was as seen in table 1.

It was seen that 8 (5.7) patients were found to be above 60 years of age while maximum prevalence (69%) was found below 35 years. Though almost all body system and organs are known to be affected by tuberculous infection, we found pleura, intestine and nervous system as the most prevalent sites of infection. Out of 140 patients of extrapulmonary tuberculosis 39.3% had pleural effusion, while almost similar number had abdominal Koch's (37.9%) in the form of ileo-caecal Koch's, mesenteric and para-aortic lymph nodes enlargement and tuberculous ascites (table 2).

Table 1: Age and gender distribution of cases

Age (in yrs)	Male (%)	Female (%)	Total
16-35	47 (48.9)	49 (51.1)	96 (68.6)
36-60	27 (75.0)	9 (25.0)	36 (25.7)
>60	2 (25.0)	6 (75.0)	8 (5.7)
Total	76 (55)	64 (45)	140 (100)

Table 2: Types of extrapulmonary tuberculosis

Extrapulmonary Koch's	Male (%)	Female (%)	Total (%)
Pleural Effusion	37 (67.3)	18 (32.7)	55 (39.3)
Abdominal Koch's	27 (50.9)	26 (49.1)	53 (37.8)
Tuberculous meningitis	5 (33.3)	10 (66.7)	15 (10.7)
Koch's spine	2 (33.3)	4 (66.7)	6 (4.3)
Tuberculoma	1 (25.0)	3 (75.0)	4 (2.9)
Koch's lymphadenopathy	3 (75.0)	1 (25.0)	4 (2.9)
Psoas abscess	1 (50.0)	1 (50.0)	2 (1.4)
Paraspinal abscess	0	1 (100.0)	1 (0.7)
Total	76 (55)	64 (45)	140 (100)

Table 3: Presence of Pulmonary koch's in patients of extrapulmonary tuberculosis

Extrapulmonary koch's	Total	Pulmonary koch's	Symptomatic	Asymptomatic
Koch's abdomen	53	15	5	10
Pleural effusion	55	3	2	1
Tuberculous meningitis	15	2	0	2

Pulmonary Koch's was found out in 20 patients i.e. 14.28% of patients had associated pulmonary Koch's but no troublesome pulmonary symptoms to the extent that a sizeable 13 patients did refuse any chest symptomatology inspite of leading question and suggestions.

Thus 85.7% of extrapulmonary tuberculosis there was no associated pulmonary Koch's and even when it was present, in majority, it was asymptomatic and there was no productive cough.

Active lung pathology in cases having pleural effusion was found in only 3 patients out of which one

was totally asymptomatic. Various pulmonary lesions found in chest X-ray of 20 patients of associated pulmonary Koch's were in the form of Cavity (2 patients), Infiltration (4 patients) Koch's consolidation (3 patients), Miliary mottling (3 patients) fibrosis (7 patients) and enlarged para-tracheal lymph node (1 patients). None of the other Extrapulmonary Koch's patients had past history of tuberculosis in any form. Seven patients had only healed or calcified tuberculous lesion suggestive of old infection being the focus for extrapulmonary lesion.

DISCUSSION

We could not find much work on profile of pulmonary pathology in patients where sole presentation was extrapulmonary tuberculosis. We found 14.3% of patients of pulmonary koch's out of 140 patients of EPTB. Only 7 patients were symptomatic while none of them were sputum positive. Thus, in majority of pulmonary Koch's in extrapulmonary presentation X-ray chest was the only mean to confirm presence of pulmonary Koch's. In our study the profile of lung involvement was found to be less symptomatic and very low as far as the sputum microscopy was concerned. In other countries like Saudi Arabia, one study[4] reported 86% of cases of isolated EPTB while only 14% had both pulmonary and EPTB while other one in United States[5] also reported that the proportion of EPTB has been increased from 18% in 1991 to *20%* in 2001.

As has been reported from India and other developing countries that lymph node tuberculosis continues to be the most common form of EPTB[6] and lymphadenitis due to non tuberculosis mycobacteria is seldom seen. In the present study of extrapulmonary tuberculosis we only found 4 patients of generalized tuberculous lymphadenitis while in 24 patients of abdominal koch's mesenteric lymphadenopathy could be detected by USG abdomen. It is very well established fact that tuberculosis can involve any part of GIT from mouth to anus, the peritoneum and Pancreatobiliary System[7].

In present study none of the patients had past history of pulmonary Koch's. Thus, in majority of extrapulmonary patients the route of entry is still a subject for further studies. At the same time maximum prevalence of pulmonary Koch's was found in patients of Koch's abdomen in our study i.e. 15 out of 53 patients. Though none of them were sputum positive, we may have to consider ingestion of bacteria as the cause of abdominal focus.

The abdominal tuberculosis is predominantly a disease of young adults. Two thirds of the patients are 21-40 years and the sex incidence is equal although some Indian studies have suggested slight female preponderance[7]. The most common site of involvement is the ileocaecal region. In Bhansali's series[8] , including 196 patients GIT Tuberculosis, ileum was involved in 102 and caecum in 100 Patients. Of the 300 patients in a study[8] ileocaecal involvement was present in 162. In our Study out of 53 patients of Koch's abdomen 29 patients has ileocaecal Involvement.

CONCLUSION

Profile of pulmonary pathology in extrapulmonary tuberculosis is not very high. We found only a small proportion (14.3%) of patients having associated pulmonary Koch's that too was asymptomatic in majority (65%).Tuberculous pleural effusion and intestinal koch's are the two commonest forms of extrapulmonary involvement.

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