



Prevalence of Positive Montoux Test in the Province of Sindh

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Abstract

Tuberculosis is a global health emergency. At present this disease has a prevalence of >1% in Pakistan. This study was designed to evaluate the prevalence of positive montoux tests in the province of Sindh. It is a cross-sectional study carried out at various branches of Diagnostic and Research Laboratory LUMHS from January 2017 to September 2017. Mantoux test was done by injecting a regular dose of 5 Tuberculin units (0.1ml) into the skin intra-dermally. The results were read between 48-72 hours after the dose and the indurated area was measured in millimeters. A total of 3121 patients including 1614 males and 1507 females were included. Mean age of study population was 14.6 years (range 1-95 years).

Out of 3121 patients 316 (10.1%) were positive, including 185 females and 131 male patients. Citywise distribution showed that 223 were from Hyderabad and Jamshoro, 62 from Mithi 14 from Sukkur and 4 from other cities.

Keywords: Tuberculosis, prevalence, montoux test.

Introduction

Tuberculosis is a global health emergency. Pakistan is reported to be at 8th position in having highest burden of Tuberculosis in the world. At present this disease has a prevalence of >1%. According to the United Nation's specialized agency, reported incidence of tuberculosis in Pakistan as 23 out of every 100,000 individual in the year 2001¹. Tuberculosis has posed severe threats to the human health even in this modern era of technological and medical excellence and has become a gigantic experiment to diagnose and manage. This incidence is even more predominant in less developed areas of the country. The reason might be the lack of awareness and less advanced facilities in these areas. Malnutrition due to poverty and ignorance with repeated infections make children more susceptible for tuberculosis by weakening their immunity. This infection rate can be controlled by early and

proper diagnosis with prompt treatment. For correct diagnosis, key helping factors are histopathological detection of granulomatous lesions, identification of bacilli and chest x-ray along with clinical findings².

One of the main and established screening method for TB is tuberculin skin also known as Mantoux test. It is cost effective and easy to perform and interpret. It detects the delayed type hypersensitivity reaction against the Purified peptide derivative. However, there linger some uncertainties regarding the sensitivity, specificity and the outcome of previous BCG vaccine on cut-off dimension of positive Mantoux interpretation³. This study was aimed to found out the prevalence of Mantoux test positivity in Sindh.

Material and Methods

It is a descriptive, one time observational study carried out at various branches of Diagnostic and Research Laboratory LUMHS in Sindh from January 2017 to September 2017. Mantoux test is done by injecting a regular dose of 5 Tuberculin units (0.1ml) into the skin intradermally.

Results

Basic statistical tools were used for the analysis of data. A total of 3121 patients advised by physician's clinically on the basis of symptoms of pulmonary tuberculosis like fever, productive cough and weight loss were included. Mean age of the study population was 14.6 years (range 1 to 95 years). There was a little male dominance in the study sample with 1614 (51.7%) males and 1507 (48.3%) female patients in the study sample. Out of total 3121 patients 2805 (89.9%) were negative and 316 (10.1%) were positive. from 316 positive patients 185 were females and 131 male patients and most belonged to Hyderabad and Jamshoro (n= 223), Mithi (n=62), Sukkur (n=14), Mirpurkhas (n=4) and remaining from small cities including Kandiaro (n=6), Tando Adam (n=4), Kandhkot (n=2) and Tando Allahyar (n=1).

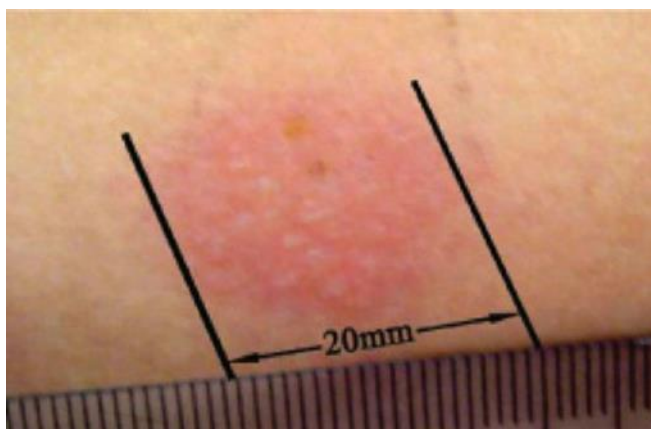


Figure 1: Skin appearances after 72 hours of a positive test achieved.

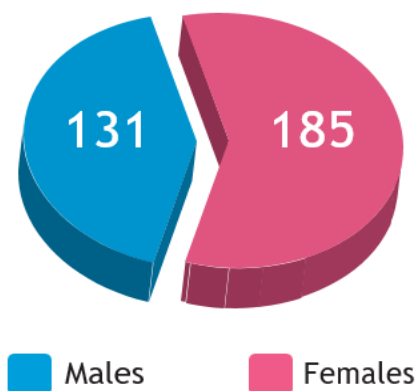


Figure 2: Male to female ratio in positive MT patients

Discussion

In this study frequency of positive MT was observed among Sindh natives. In our results the mean age was found 14.6 years ranging from one to 95 years old and the proportion of positive MT population is female i.e. 185 females vs. 131 males, Jamil B. et al showed similar findings. The mean age of their study population was 24 years ranging from one to 84 years and their diseased population had more females as compared to males⁴. According to national curriculum of tuberculosis for MBBS students of Pakistan, sixty thousand people died due to TB in 2009⁵. There has been no survey done in Sindh to identify the true prevalence of this gruesome disease, this study gives a rough idea how grim the situation is in the second most populated province of Pakistan.

Conclusion

Scientific research on the MT has revealed that a diagnosis of active case of tuberculosis is never made exclusively on the results of this test so it was stated that MT has minimum part in the diagnosis of active tuberculosis.

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