



### Case Report

## CLINICAL AND PHARMACEUTICAL STUDY OF TUBERCULOSIS PATIENT ADMITTED IN JINNAH HOSPITAL, LAHORE, PAKISTAN

**Bilal Haroon, Yasen Ghani, Sajjad Sarwar**

Faculty of Pharmacy, University of Sargodha, Sargodha Pakistan.

### ABSTRACT

This case study has been designed to access and discuss all the aspects through which the disease Tuberculosis can become fetal and more aggressive. A 31 years old woman in Lahore move to the doctor, unreasonable fever from three successive days, along with night sweats. She has been examined in the hospital with great care and was approved special type of tests specific for the disease. These tests included her Sputum examination for acid fast bacillus, complete blood count, ESR, Microdot or tuberculin skin tests and chest X-rays. Tuberculosis was diagnose and she was given medical prescriptions along with complete rest.

**Key Words:** Tuberculosis, Sputum examination for bacillus, ESR.

**Corresponding Author:** Bilal Haroon Faculty of Pharmacy, University of Sargodha, Sargodha, Pakistan. C.:+923452144460; E: [Bilal.haroon87@gmail.com](mailto:Bilal.haroon87@gmail.com)

### INTRODUCTION

Tuberculosis, MTB or TB, in part also called Phthisis or spending is a general disease caused by various strain of mycobacterium. It is extend through air when people who have an active [7]. TB infection cough, sneeze or otherwise transmit respiratory fluids through air Tuberculosis usually attacks the lungs but can also affect other parts of body. The orthodox symptoms of active TB infection are chronic cough with blood-tinged sputum, fever, night sweats and weight loss. Diagnosis of active TB relies on radiology (commonly chest X-rays), as well as microscopic examination and microbiological culture of body fluid [1]. Main symptoms of TB are listed in the figure given below. However, the most common symptoms of TB that are experimental in majority of the TB patients are cough, fever and sputum production. [1]

### CASE PRESENTATION

A 31 years old mill worker woman from Lahore offered to doctor irritable cough from 4 weeks and fever from 3 days. Patient was ill during usual state of health 4 weeks back when she developed go on about of cough for which she has been taking a variety of syrups from local doctor but her complain did not take it easy. When she was on hand to Dr. Samia (Jinnah Hospital Lahore) her cough was productive, with no relieve factor and it was associated with a lot quantity of sputum. There was also blood in the sputum 3 days back. Body temperature was low mostly at night having night sweats but from 3 days became high along the body pain. Patient never had Asthma, Diabetes, Hepatitis, and typhoid fever, Hypertension or Pneumonia. She also had no operation in history. She also never had reaction to any drug. There was also no history of Diabetes, Asthma, and Hypertension in her family but her father died of pulmonary cocks. She has two kids and her delivery as usual (without surgical treatment). She never had any drug usually drinking and smoking etc. As she never had any severe disease so there was no medication on regular basis. Patient is a industrial employed and she works in a cotton darning industry. She works in a closed factory along with 100 employ. She bears a little social and financial status. She lives with her husband who earns only Rs.6000/- per month and her self-earning were not quit sufficient to meet the daily needs. On

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### Corresponding author:

**Bilal Haroon** Faculty of Pharmacy,  
University of Sargodha, Sargodha,  
Pakistan. C.:+923452144460; E:  
[Bilal.haroon87@gmail.com](mailto:Bilal.haroon87@gmail.com)

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examination of patient B.P was 100/70 mmHg Temperature 99.8°F Pulse rate 108 /min Respiration rate 26/min

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Dr. Amanat Ali M.Sc., Ph. D, D.H.Ed.  
Ex P. Ag., Ex CAC, Associate  
Professor, Department of Food  
Science and Nutrition, College of  
Agricultural and Marine Sciences,  
Sultan Qaboos University, P. O. Box  
34, Al-Khoud, PC 123, Muscat,  
Sultanate of Oman.  
T.: (968) 24141242 (O); (968)  
24414400 (H), F: (968) 24413418.  
E:amanat@squ.edu.com ,  
[amanata@gmail.com](mailto:amanata@gmail.com)

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On checkup of respiratory system infection, there were no evident mark and veins on chest. Percussions were also not special auscultation. There were bilateral apical repetitions with reduced air way in more than right side. Rests of general test were routine. She was clinically evaluate and laboratory tests as well as Hemoglobin, ESR, total blood count, sputum for acid fast bacillus and X-rays were completed. She was put on standard anti-tuberculosis cure and followed from 2 to 5 months to observe treatment effect. Moreover, patient progress to get better after 6 weeks of infection. When the treatment was given accurately, the study of the patient highlights that there is no relationship between clinical and laboratory parameters in establishing a sure analysis of the disease. So, further study about the disease and its handling is essential. When the problem is diagnosed then the suitable cure was started and patient is now moving to normal condition. We'll have a look on the conclusion of the disease, the facts and methods of the tests suggested to patient and common cure of the disease that will advance extremely structured the situation. Following tests were approved for additional verification of disease: Sputum test for acid fast bacillus. Total blood count and ESR, Microdot or tuberculin skin test, Chest X-rays. Microscopic test of Sputum indicate the occurrence of acid fast bacillus as it resist mutually, the primary and secondary stain. This test is used to detect mycobacterium infections such as Tuberculosis. It may also be used when an different mycobacterium infection is assumed. The bacillus was Mycobacterium tuberculosis that is the major reason of Pulmonary Tuberculosis. Cells in the blood are red blood cells, white blood cells and platelets. It also helps to analyze anemia, infections and many other disorders. From the blood count of the patient it is appeared that the patient was placid anemic. There was raised level of ESR (erythrocytes sedimentation rate). One of its causes was starvation discussed below. A tuberculin skin test (Mantoux tuberculin test), is used to identify tuberculosis. It is performed by inserting small quantity of TB protein over the top film of skin on your inner forearm. If the patient 2nd timely exposed, his skin will encounter to her antigens by developing a rigid red bump at the place within 2 days. It is used when symptoms such as chest X-rays show that a person may have TB. A tuberculin skin test cannot inform how lengthy you have been infected with TB. It also cannot advise if the infection is dormant (inactive) or is active and can be approved to others. In people with no known risks of T.B, 15mm or more of solid inflammation at the location indicates a positive reaction. This chest x-rays show complex pulmonary tuberculosis. There is variety of luminosity areas (opacities) of unstable size that run jointly (coalesce). Arrows point out the location of cavities within these light areas.

**Table 1. The treatment protocol – frequency, interval and doses of Patients**

Drugs	Duration	Interval	Minimi
Isoniazid	9 months	Daily	270 mg
		Twice weekly*	76 mg
Isoniazid	6 months	Daily	180 mg
		Twice weekly*	52 mg
Isoniazid and Rifampentine	3 months	Once weekly*	12 mg
Rifampicin	4 months	Daily	120 mg

The x-ray on the left obviously shows that the opacities are located in the upper area of the lungs near the back. The look is classic for chronic pulmonary tuberculosis but can also occur with chronic pulmonary histiocytosis and chronic pulmonary coccidioidomycosis. Pulmonary tuberculosis is meeting a return with new anti strains that are not easy to cure. Pulmonary tuberculosis is the most general form of the disease, but other organs can be impure. Pharmacotherapy allowed by his doctor includes the following

- 2 tablets daily of Rifados containing Isoniazid 80 mg Rifampicin 120 mg

- Pyrazinamide 250 mg Abbutol contains Ethambutol 400 mg

These tablets were given for 2 months after that only Isoniazid and Rifampicin were approved for 4 months. Dose was approved according to the weight of the patient. Patient weighs 61 kg. Isoniazid was set as 5 mg per 1 kg so its dose should not surpass 305 mg, Abbutol was given as 15 mg per 1 kg so its dose should be in 905 mg range, Rifampicin is 450 mg single dose and maximum 600 mg dose is given. Initially 1 tablet of Rifados and 2 tablets of Abbutol were approved in according to the above circumstances.

Once the diagnosis of latent (dormant) TB infection has been made, health care providers must select the most suitable and valuable handling regimen. Treatment of latent (dormant) TB infection should be initiated after the chance of TB disease has been exempted. The four treatment regimens use isoniazid (INH), rifapentine (RPT), or rifampin (RIF). Treatment always is modified if the patient is in touch of an entity with drug-resistant TB. Talk with TB professionals is advised if the recognized cause of TB infection has drug-resistant TB. Table No.1)

## **DISCUSSION**

Tuberculosis is a bacterial infection that can proliferate through the lymph nodes and blood flow to any organ in your body. It is most often establish in the lungs (Pulmonary Tuberculosis). Most people who are exposed to TB never build up symptoms because the bacteria can live in an inactive form in the body. But if the immune system weakness, such as due to hunger or in people with HIV or mature adults, TB bacteria can cultivate to be active. In their active situation, TB bacteria source loss of tissue in the organs they infect. Active TB disease can be fetal if left unprocessed [5, 6]. Because the bacteria that cause tuberculosis are transmitted all over the air, the disease can be catching. Infection is most possible to occur if you are showing to someone with TB on a day-to-day source, such as by alive or operational in seal quarters with someone who has the active disease. Still then, because the bacteria usually stay inactive after they attack the body, only a small number of people infected with TB will ever have the active disease. The remaining will have what's called latent TB infection. They show no symptoms of infection and able to increase the disease to other if disease becomes active. Because the dormant infections can finally become active, even people without symptoms should receive medical treatment. Medication can help getting rid of the inactive bacteria before they become active [6]. Tuberculosis treatment and sort out pains mostly rely on the immunization of infant and the recognition and suitable handling of active cases. The World Health Organization has achieved some success with improved treatment regimens, and a minute decrease in case figures [7].

## **CONCLUSION**

look at the condition of the patient and all the information of her test, we refined that the patient belongs to the poor socio-economic family with a denote monthly income of less than Rs 10,000/- This class is more focus to starvation of numerous types, and possibly has a poor immunity, allowing return of earlier infections or even newer infections of tuberculosis. Squat income also tend to influence the cure regimen, drug availability and duration of treatment. There may also be other reason for which she developed this disease i.e. the place where she is working may be the starting place of poisonous waste and hence supply of its disease or her diet is not appropriate.

## **RECOMMENDATIONS**

1. Make sure that patients with helpful PPDs obtain suitable medical assessment.
2. Observe patients in cure or defensive therapy for faithfulness, of treatment, and side effects Patients with TB danger factor known on the TB risk assessment form will experience a TB screening meeting to estimate for signs and symptom of disease. Related symptoms consist of persistent cough (3 weeks or more in duration), Bloody sputum, Fever, Night sweats, Weight loss or loss of hunger.

3. Get care to classify beside those with TB who are not infectious and create no risk of transmit.
4. Supplies decontaminate proteins derivative (PPD) skin test for all high-risk patients.
5. Transmission will start on with an assessment using a TB risk evaluation survey that focus on the signs and symptoms of TB and on history TB association with action, and defensive treatment[5].
6. Description supposed and established cases of dynamic TB to general or State community health officials, as mandate by state law.
7. Take out or separate patients with active disease. Make sure that patients in want of TB action obtain it.
8. Use directly experimental therapy to support patient devotion to suggested cure or defensive treatment regimens.
9. Monitor patients at for TB.
10. Inform patients about the danger of TB in the capability, the signs and symptoms of TB, TB treatment, defensive therapy, and the side effects of TB medication.
11. Remain careful report of PPDs, evaluation, x-rays, diagnosis, etc.
12. Collaborate with public health officials and others to make sure proper test, evaluation, and keep record completely[5].

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