Pak. J. Chest Med. 2023;29(01)

Case Report

journal homepage: https:/www.pjcm.net/

Pakistan Journal of Chest Medicine

Official journal of Pakistan Chest Society

# A Challenging Journey: Multidrug-Resistant Tuberculosis in a Female Patient

**Faisal Younis**[1], **Touqeer Anjum**[2✉], **Zafar Iqbal**[3]

[1]Association for Community Development, Peshawar – Pakistan [2]Programmatic Management of Drug Resistant TB Unit, Lady Reading Hospital Peshawar – Pakistan [3]Department of Pulmonology, Lady Reading Hospital Peshawar – Pakistan

**Corresponding Author**
**Touqeer Anjum**
Programmatic Management of Drug Resistant TB Unit, Lady Reading Hospital Peshawar - Pakistan
Email: touqeeranjum31@gmail.com

**Article History:**

| | |
|---|---|
| Received: | Jan 04, 2023 |
| Accepted: | Feb 21, 2023 |
| Available Online: | Mar 02, 2023 |

**Author Contributions:**

ST MY ZI SS conceived idea, ST MY AI AM drafted the study, MY AM SS collected data, ST MY AM did statistical analysis and interpretation data, STMY AI AM did criticalreviews manuscript, All approved final version to be published.

**Declaration of conflicting interests**

The authors declare that there is no conflict of interest.

**How to cite this case report:**

Younis F, Anjum T, Iqbal Z. A Challenging Journey: Multidrug - Resistant Tuberculosis in a Female Patient. Pak J Chest Med. 2023;29(1): 124-126

## A B S T R A C T

Multidrug-resistant tuberculosis (MDR-TB) remains a significant global health threat, necessitating ongoing research and case studies to understand its complexities. This case report presents the diagnostic and therapeutic challenges encountered in the management of MDR-TB in a female patient. The case highlights the importance of timely diagnosis, individualized treatment regimens, and the psychosocial aspects of care. It also underscores the need for continued research to improve MDR-TB management strategies.

**Keywords:** Multidrug-resistant tuberculosis; Female Patient; Diagnosis; Psychosocial Aspects; Case Report

## Introduction

Multidrug-resistant tuberculosis (MDR-TB) is a formidable challenge in the field of tuberculosis management. It is characterized by resistance to at least isoniazid and rifampicin, the two most potent first-line anti-TB drugs. MDR-TB requires prolonged, complex treatment regimens and poses a considerable threat to public health due to its potential for transmission.[1,2] This case report describes the presentation, diagnosis, treatment, and psychosocial aspects of MDR-TB in a female patient, highlighting the intricacies of managing this condition.

## Case Presentation

**Patient History**: A 17-year-old female, presented to Emergency department with a complain of hemoptysis, around to 150-200 ml at once. It was of bright red in color without any nausea or vomiting symptoms. She was also had on/off fever, mild cough and weight loss history. She had positive family history of TB exposure. Initially, she was misdiagnosed at emergency department. They were suspecting some gastro intestinal issue and they planned endoscopy very next day and the findings were completely normal. They then referred this patient to Pulmonologist which advised further investigations to diagnose this patient.

**Diagnostic Challenges**: Despite receiving antibiotics and PPIs, patient symptoms worsened. She underwent multiple sputum examinations for acid-fast bacilli (AFB), all of which were negative. However, due to the persistence of symptoms and an

alarming chest X-ray, further investigations were pursued. GeneXpert MTB/RIF assay confirmed Mycobacterium tuberculosis and detected rifampicin resistance.

## Treatment Initiation

**Drug Susceptibility Testing**: Drug susceptibility testing (DST) revealed resistance to isoniazid and rifampicin. Additional DST confirmed susceptibility to second-line drugs, allowing for the initiation of an MDR-TB treatment regimen.

**Individualized Treatment**: The patient treatment regimen was tailored based on DST results and included a combination of second-line anti-TB drugs such as Bedaquilline, levofloxacin, ethionamide, Clofazimine and pyrazinamide. Adherence support, nutritional counseling, and psychosocial assistance were integral components of her care plan.

## Challenges in Treatment

**Adverse Effects**: Throughout her treatment, the patient experienced adverse effects, including joint pain, gastrointestinal disturbances, and psychiatric symptoms. Management of these side effects required close monitoring and adjustments to her medication regimen.

**Psychosocial Support**: The study case also faced significant psychosocial challenges, including social stigma, depression, and isolation. A multidisciplinary team, including a psychologist and social worker, provided continuous support to address these issues and improve her overall well-being.

## Clinical Progress

**Monitoring and Follow-Up**: Regular monitoring of sputum cultures and drug susceptibility tests was performed to assess treatment response. After two months of intensive phase therapy, culture results showed that results in negative culture.

**Continuation Phase**: She continued with a tailored regimen for an additional 9 months during the continuation phase of treatment. Supportive care remained crucial, focusing on adherence and minimizing adverse effects.

## Discussion

**Diagnostic Delays**: The delay in MDR-TB diagnosis highlights the challenges in diagnosing drug-resistant TB, particularly when AFB smears are negative. It underscores the importance of considering TB in the differential diagnosis for individuals with persistent respiratory symptoms, even when conventional tests yield negative results.[3]

**Individualized Treatment**: Individualized treatment regimens, guided by DST results, are essential for successful MDR-TB management. Close monitoring and timely adjustments to address adverse effects are critical components of care.[4,5]

**Psychosocial Aspects**: The psychosocial aspects of MDR-TB care are often overlooked but are integral to patient well-being and treatment adherence.[6,7] Ms. A's case emphasizes the need for comprehensive psychosocial support, including addressing stigma and providing mental health services.

## Conclusion

This case report illustrates the diagnostic, therapeutic, and psychosocial challenges encountered in managing MDR-TB in a female patient. Timely diagnosis, individualized treatment, and holistic patient care were pivotal in her recovery. It underscores the importance of ongoing research and comprehensive care strategies to combat the global burden of MDR-TB. Further studies are needed to refine diagnostic approaches and optimize treatment outcomes for this formidable disease.

## Acknowledgment

We would like to acknowledge the dedication and hard work of the healthcare professionals involved in the care of this patient. Additionally, we express our gratitude to the patient for allowing us to share her case for educational and research purposes. This work would not have been possible without their contributions.

## References

1. Khan MA, Mehreen S, Basit A, Khan RA, Jan F, Ullah I, et al. Characteristics and treatment outcomes of patients with multi-drug resistant tuberculosis at a tertiary care hospital in Peshawar, Pakistan. Saudi medical journal. 2015;36(12):1463. 15.
2. Iqbal Z, Khan MA, Aziz A, Nasir SM. Time for culture conversion and its associated factors in multidrugresistant tuberculosis patients at a tertiary level hospital in Peshawar, Pakistan. Pakistan Journal of Medical Sciences. 2022;38(4Part-II):1009.
3. Iqbal Z, Batool R, Khan MA, Ali SZ, Asif M. Predictors of Unsuccessful Interim Treatment Outcomes and Culture Conversion among Multidrug Resistant Tuberculosis Patients in Pakistan. IJONS.2021;64(11) : 29253-64
4. Condeng B. Effects of Counseling on the Quality of Life of MDR Lung TB Patients. Poltekita: Jurnal Ilmu Kesehatan. 2023;17(1):67-75.
5. Condeng B. Effects of Counseling on the Quality of Life of MDR Lung TB Patients. Goetzel RZ, Ozminkowski RJ, Sederer LI, Mark TL. The business

case for quality mental health services: why employers should care about the mental health and well-being of their employees. Journal of occupational and environmental medicine. 2002: 320-30

6. Farooq U, Khan MA, Nasir SM, Hameed S, Ashiq N, Khan HU, et al. Frequency and Risk factors responsible for Multidrug Resistant Tuberculosis in Khyber Pakhtunkhwa. Pakistan Journal of Chest Medicine.2020;26(2):85-93
7. Dias AA, de Oliveira DM, Turato ER, de Figueiredo RM. Life experiences of patients who have completed tuberculosis treatment: a qualitative investigation in southeast Brazil. BMC public health. 2013;13:1-9