

Severe Multi-Drug Hypersensitivity and Hepatotoxicity  
During Antituberculosis Therapy: A Management Challenge

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INTRODUCTION

- Pulmonary tuberculosis (PTB) is endemic in Malaysia<sup>1</sup>.
- Standard first line anti-tuberculosis therapy (ATT) includes rifampicin, isoniazid, ethambutol and pyrazinamide.
- ATT may rarely trigger severe cutaneous adverse drug reactions (SCARs), such as exfoliative dermatitis (ED), typically attributed to a single agent<sup>2,3</sup>.

Management  
Challenge

Exfoliative dermatitis

- Rifampicin, Isoniazid, Ethambutol, Ofloxacin

Drug-induced liver injury

- Pyrazinamide

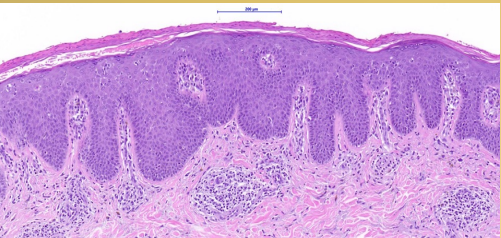
When Lifesaving Becomes Life-threatening: A Case-based Insight

October 2024

- 67M, COPD GOLD E, diagnosed with smear-negative culture-positive, pan-sensitive PTB. Started on 1st line ATT.

February 2025

- Generalised erythematous, dry and scaly pruritic rash.
- ATT withheld.
- Labs: eosinophilia with no liver or kidney impairment.
- Skin biopsy -> ED.

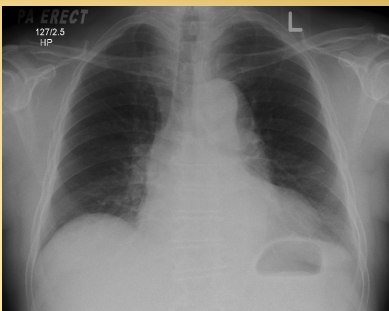


**Histopathology:** Overlying parakeratosis, irregular acanthosis with intraepidermal lymphocytic exocytosis. No bandlike infiltrate at dermoepidermal junction.



July -  
September 2025

- Exfoliative lesions resolved.
- 2nd line ATT (clofazimine, linezolid, cycloserine).
- Liver function test normalised.
- Serial TB cultures remained negative.



CXR: no active pulmonary lesions.

March - June 2025

- Stepwise reintroduction of ATT.

| 5 <sup>th</sup> March | 24 <sup>th</sup> March           | 12 <sup>th</sup> April | 24 <sup>th</sup> April | 13 <sup>th</sup> May | 19 <sup>th</sup> May | 26 <sup>th</sup> May | 2 <sup>nd</sup> June | 17 <sup>th</sup> June | 23 <sup>rd</sup> June |
|-----------------------|----------------------------------|------------------------|------------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|-----------------------|
| Rifampicin            | Ethambutol, Isoniazid, Ofloxacin | Ofloxacin              | Isoniazid              | Pyrazinamide         | Ethambutol           | Clofazimine          | Pyrazinamide         | Linezolid             | Cycloserine           |

■ Hypersensitivity reaction   ■ Drug-induced liver injury   ■ Tolerated rechallenge

DISCUSSION

- ⚠ **Immediate withdrawal** of suspected drugs & initiation of corticosteroids.
- 🔄 **Stepwise rechallenge** with close monitoring.
- 🎯 **Transition to individualized 2nd line regimen** to balance TB control vs adverse reactions.

CONCLUSION

- ⚡ **Early recognition** of ATT-induced SCARs and hepatotoxicity is critical.
- ✅ **Multidisciplinary, cautious stepwise management** ensures successful outcomes.
- 📖 **Local protocols** for ATT-related SCARs are **urgently needed**.

REFERENCES

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