A Rare Case of Pyrazinamide-Induced Warm Autoimmune Haemolytic Anaemia and Polyuria in a HIV-negative Patient with Pulmonary Tuberculosis and Dual Malignancies

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CAS-090

INTRODUCTION

- Tuberculosis (TB) remains a global challenge with complex management[1].
- Anti-TB drugs, especially pyrazinamide, carry risk of severe and sometimes unexpected adverse effects[2].
- Coexisting malignancy can mask or complicate TB presentation, delaying diagnosis[3,4].

CASE PRESENTATION & TIMELINE

Month	Clinical events	Key Findings	Intervention	Outcome
Feb 2025	Smear-positive and pan-sensitive PTB diagnosed	CXR: right middle zone infiltrates (Fig 1)	Started ATT (EHRZ)	Initial response
Mar - Apr 2025	Rash onset	Generalized maculopapular rash (Fig 2)	Ethambutol stopped, on HRZ	Rash resolved
May 2025	Anaemia + polyuria (6-7L/day)	Hb ↓, haemolytic markers raised, DAT: lgG 3+, c3D 3+; cold agglutinin test negative	Pyrazinamide withdrawn	Polyuria + AIHA resolved
Jun 2025	Violaceous skin lesions (Fig 3) + generalized lymphadenopathy	Skin biopsy: Kaposi Sarcoma (Fig 4); right cervical LN biopsy: classical Hodgkin Lymphoma (Fig 5)	Oncology and haematological referral	Awaiting chemotherapy
Early Jul 2025	Invasive fungemia	Left tonsil biopsy: numerous hyphae and yeast elements seen (Fig 6); HIV antibody repeatedly NR	IV Amphotericin B x 2 weeks → tablet fluconazole	Improved
Mid-Jul 2025	Hypoxia under room air	CXR: bilateral lung consolidations (Figure 7)	TMP-SMX for PCP	Better oxygenation
Late Jul 2025	Hepatitis	Predominantly direct bilirubinaemia, CXR: improving consolidations (Fig 8)	Fluconazole, TMP-SMX and ATT withdrawn	Resolving
Early Aug 2025	Deteriorated required nasal prong and inotropic support	Enterococcus Faecium and Corynebacterium Jeikeium bacteraemia	IV vancomycin	Improved
Mid-Aug 2025	Respiratory failure	CXR: bilateral lung patchy consolidations (Fig 9)	NIV + IV meropenem	**Succumbed**
Feb - Aug 2025	Sputum surveillance	Smear converted since Mar 2025, monthly sputum TB cultures have **remained no growth** since Apr 2025	Planned for a 9-month course of HRO initially	PTB controlled

Abbreviations: PTB: pulmonary tuberculosis; CXR: chest radiograph; ATT: antituberculosis therapy; EHRZ: ethambutol, isoniazid, rifampicin, pyrazinamide; Hb: haemoglobin; DAT: direct antiglobulin test; IgG: immunoglobulin G; AIHA: autoimmune haemolytic anaemia; LN: lymph node; HIV: human immunodeficiency virus; NR: non-reactive; IV: intravenous; TMP-SMX: trimethoprim-sulfamethoxazole; PCP: pneumocystis jirovecii pneumonia; NIV: non-invasive ventilation; HRO: isoniazid, rifampicin, ofloxacin

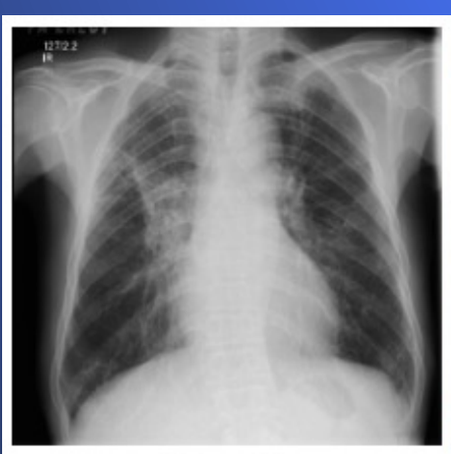

Figure 1

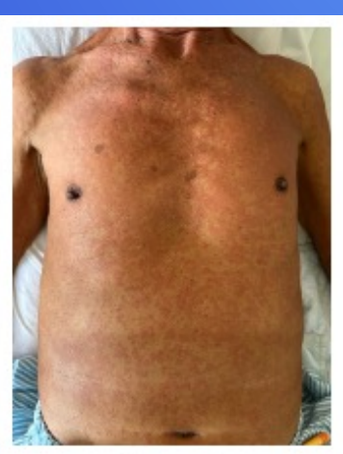

Figure 2

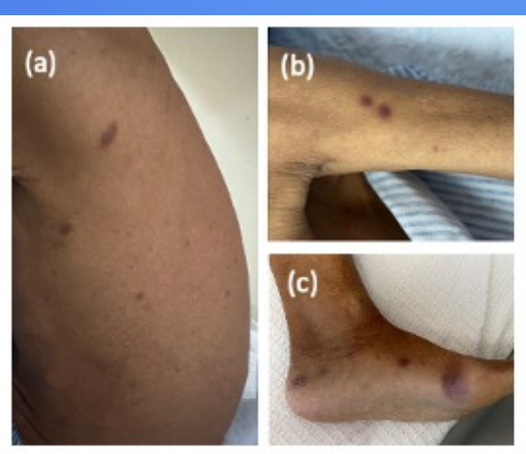

Figure 3 (a) trunk (b) left arm (c) left foot

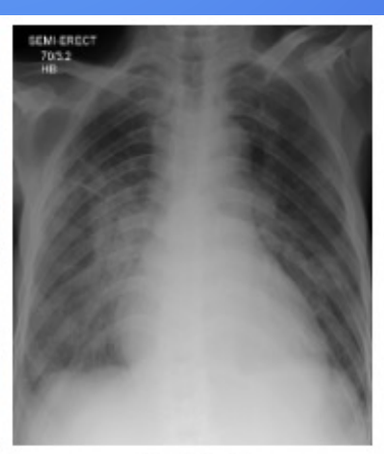

Figure 7

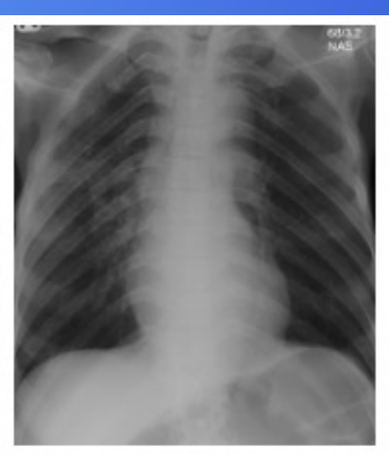

Figure 8

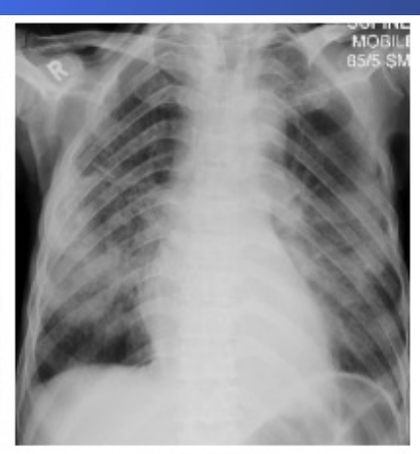

Figure 9

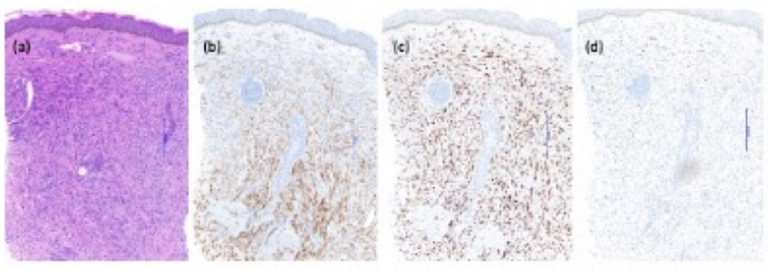

Figure 4 (a) spindle cells proliferation with slit-like vascular spaces containing red blood cells (b) CD34+ (c) ERG+ (d) HHV-8+

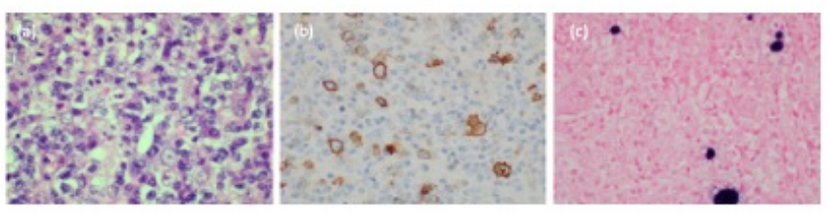

Figure 5 (a) lymph node is infiltrated by Hodgkin cells in the mixed inflammatory cell backgrounds (b) CD30+ (c) EBER-ISH+

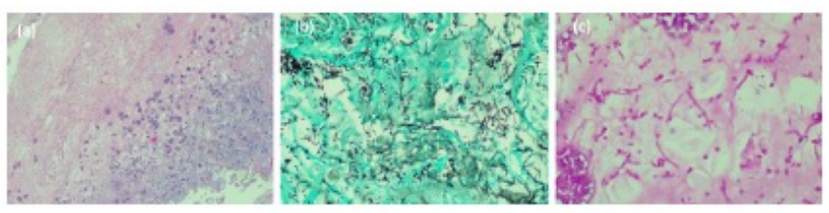

Figure 6 (a) a dense inflammatory infiltrate is present, composed predominantly of neutrophils, lymphocytes, and plasma cells. (b & c) numerous fungal elements are identified (highlighted by PAS & GMS stains).

DISCUSSION & CONCLUSION

⚠️ **Rare but real**: Pyrazinamide-induced warm AIHA and polyuria are exceedingly rare — **resolution after withdrawal supports causality**.
🔍 Persistent atypical findings in PTB patients should trigger suspicion of malignancy or drug toxicity.
👥 A multidisciplinary approach was essential to navigate the diagnostic and therapeutic complexities.

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"Unusual PTB? Think malignancy. Think drug toxicity."