Pseudoainhum in a Patient with Leprosy in Ireland: A Diagnostic Challenge

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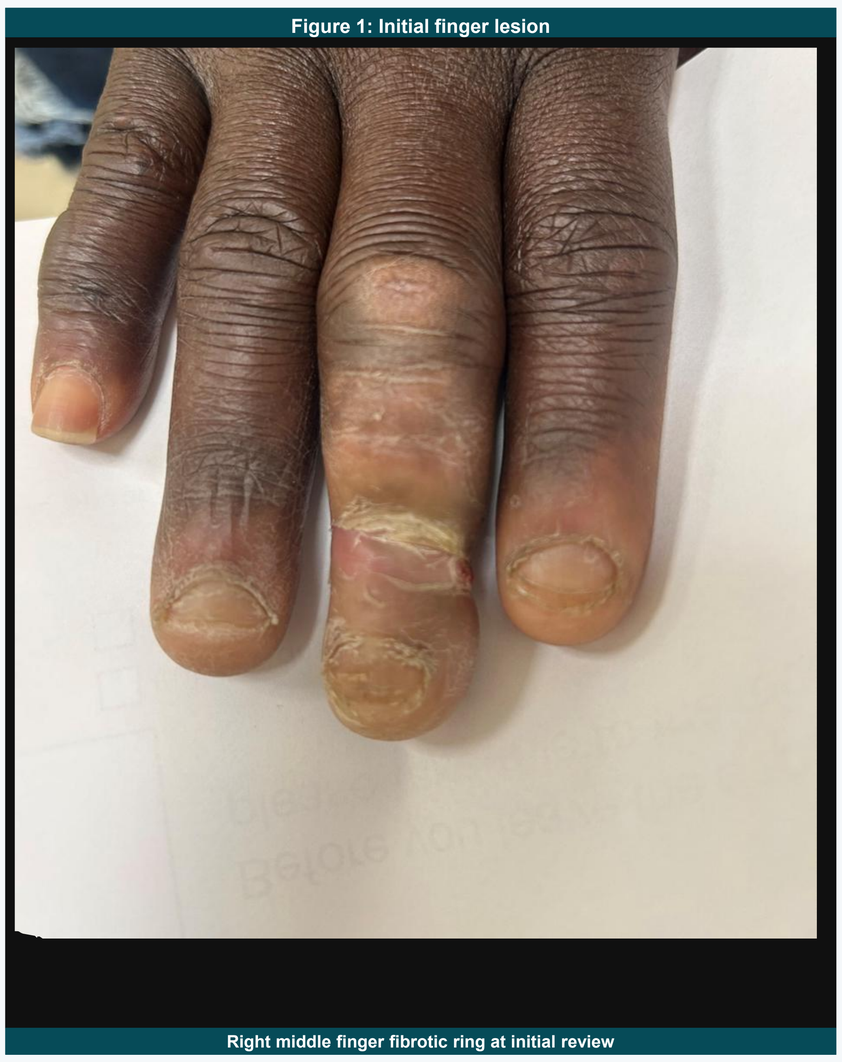
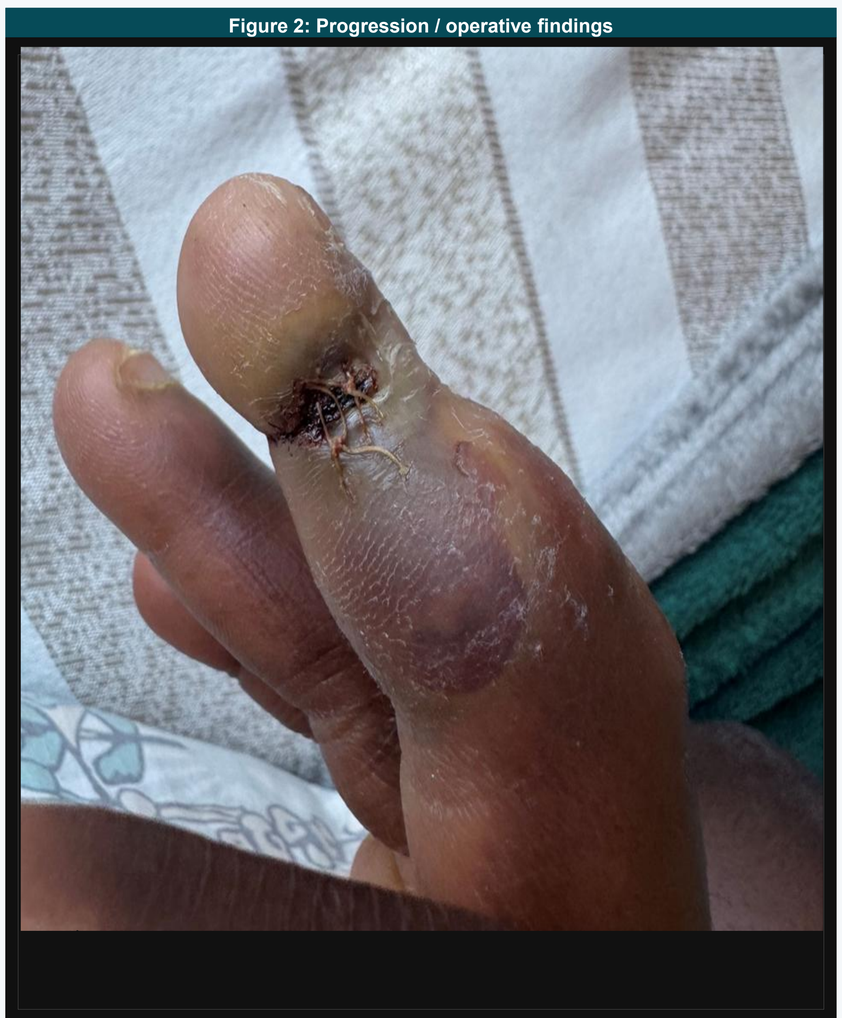
Key message A painful circumferential lesion in a neuropathic finger during multidrug therapy for leprosy was managed as early pseudoainhum with superimposed infection, enabling digit preservation and avoidance of progression towards auto-amputation.

Figure 1: Initial finger lesion



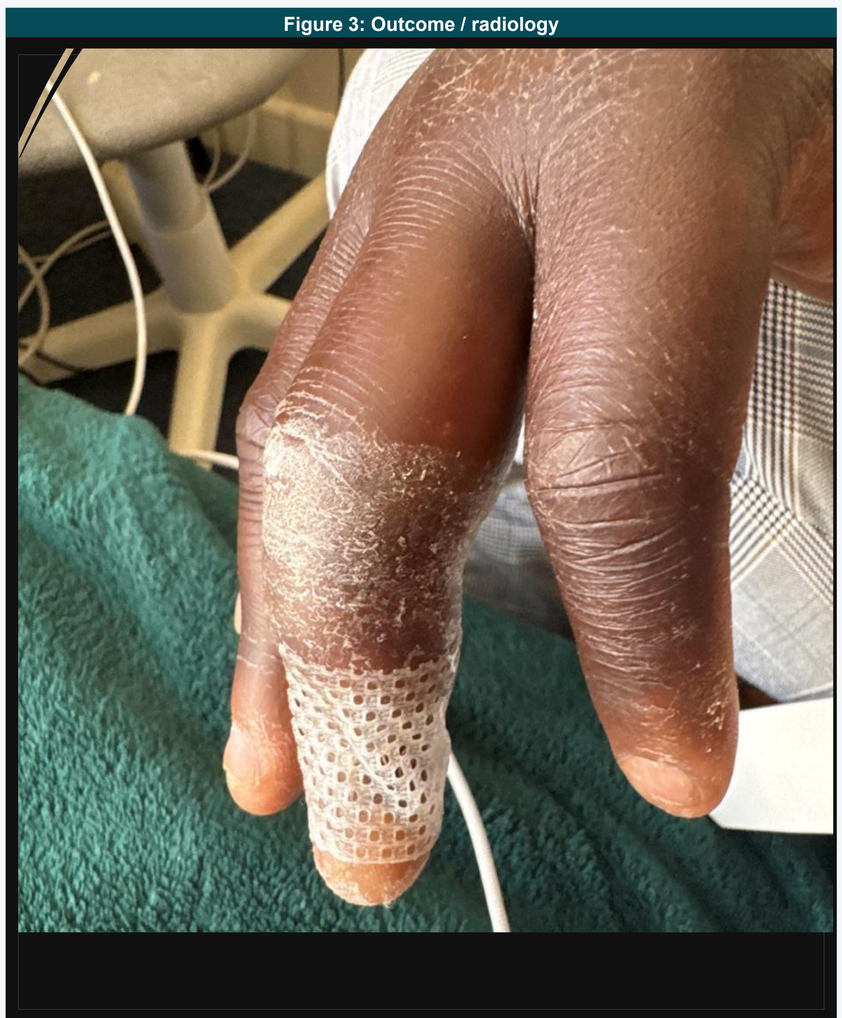
Right middle finger fibrotic ring at initial review

Figure 2: Progression / operative findings



Finger lesion post initial biopsy

Figure 3: Outcome / radiology



Post incision and drainage

Introduction

Leprosy is rare in Ireland, so clinicians may be less familiar with its complications. Pseudoainhum is a constricting fibrotic band around a digit that can lead to distal swelling, tissue compromise and eventual auto-amputation.

In leprosy, neuropathy, repeated unnoticed trauma and chronic inflammation may contribute. Distinguishing pseudoainhum from erythema nodosum leprosum (ENL) and superimposed infection is clinically important because management differs.

Case description

A 33-year-old man born in Haiti and previously resident in Brazil moved to Ireland in 2022. He later developed multiple nodular skin lesions with sensory disturbance in the right hand.

Neurophysiology demonstrated median and ulnar neuropathy. A repeat deep forearm biopsy on 05 July 2024 confirmed Mycobacterium leprae by 16S rRNA PCR. The extent of cutaneous disease and nerve involvement met WHO criteria for multibacillary Hansen's disease.

He commenced WHO multidrug therapy with rifampicin, dapsone and clofazimine, plus prednisolone for neuritis, with good early response. Near completion of therapy, he developed painful swelling and ulceration of the right middle finger.

Clinical timeline

Late 2023–early 2024
Nodular skin lesions and upper-limb neuropathic symptoms investigated.

05 Jul 2024
Deep biopsy confirmed M. leprae by PCR.

Jul 2024–May 2025
WHO MDT for multibacillary leprosy, with prednisolone for neuritis; skin and nerve symptoms improve.

Apr–May 2025
Painful swelling and ulceration of right middle finger develops.

22–30 May 2025
Admission under Plastic Surgery for drainage, debridement and split-thickness grafting.

Diagnostic challenge

Approach to new lesion in MDT

Painful ulcerative constricting lesion in patient with known leprosy

Type 2 reaction (ENL)

For
- MB disease
- During treatment

Against / limits
- Solitary lesion
- No systemic illness
- Biopsy not supportive

Secondary infection

For
- Purulence
- Positive cultures
- Improved after surgery

Against / limits
- Does not fully explain annular morphology

Pseudoainhum

For
- Neuropathic digit
- Circumferential band
- Expert opinion supportive (LSHTM)

Against / limits
- Rarely reported
- Histology non-specific

Favoured interpretation: early pseudoainhum with superimposed infection; ENL less likely.

Investigations

Biopsy
Granulation tissue and mild lymphocytic inflammation; no granulomas or AFB on superficial sample.

Microbiology
Operative cultures grew S. aureus and S. dysgalactiae, confirming superimposed infection.

AFB microscopy
Few bacilli only in deeper tissue, interpreted in the clinical context.

Radiology / labs
No osteolysis or osteomyelitis; modest CRP rise with rapid improvement after surgery.

Pseudoainhum progression

1. **Constriction** — Fibrotic band forms.
2. **Distal swelling** — Lymphoedema beyond band.
3. **Bone resorption** — Osteolysis may occur.
4. **Auto-amputation** — Loss of digit if advanced.

Early recognition offers the best chance of digit-sparing treatment before tissue loss or auto-amputation.

Management pathway

1. **Control infection** — Drainage, washout and antibiotics.
2. **Preserve tissue** — Debridement; flexor sheath and bone spared.
3. **Continued MDT** — WHO multidrug therapy maintained.
4. **Definitive cover** — Split-thickness graft achieved durable coverage.

Outcome

- Split-thickness grafting achieved stable soft-tissue coverage and preserved the finger.
- Inflammatory markers improved after surgical source control.
- No escalation to thalidomide or further immunosuppression was required at this time.
- Early follow-up showed satisfactory healing with mild residual stiffness.

Discussion

Pseudoainhum in leprosy is rarely reported in the literature, particularly outside endemic settings, and can therefore be overlooked.

In this case, the constricting annular morphology and neuropathic background favoured pseudoainhum.

Management guidance is limited and there is no universal protocol, so treatment must be individualised according to stage, infection, tissue viability and local expertise. Plastic Surgery input was pivotal to the favourable digit-sparing outcome.

Practical approach

1. **Recognition** — Annular lesion in neuropathic digit.
2. **Exclusion of red flags** — Abscess, necrosis, exposed structures, bone disease.
3. **Differential** — ENL, infection and pseudoainhum.
4. **Involve MDT early** — ID, dermatology, leprosy expertise (LSHTM) and Plastics.
5. **Preserve tissue** — Control infection, continue MDT, pursue digit-sparing surgery.

Selected references

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