

Imposter insect bites: a case of neurosyphilis in disguise



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INTRODUCTION

- Syphilis: multisystem infection caused by *Treponema pallidum*
- Challenging diagnosis due to ubiquity and pleomorphism
- Neurological involvement: rare, but can occur at any stage

ADDITIONAL INVESTIGATIONS

- Positive RPR and TPHA
- Lumbar puncture
 - Normal cell count, ↑ albumin and intrathecal IgG
- Normal brain MRI

CASE PRESENTATION

- 53-year-old man, returning from Malaysia
- Nodular skin lesions, left-sided hearing loss and impaired vision of the right eye
- **Previous medical visits**
 - General practitioner: persistent insect bites?
 - Otorhinolaryngologist: acoustic trauma
 - Ophthalmologist: right-sided papilledema
- **Clinical examination**
 - Multiple erythematous, infiltrated nodules on the face, trunk and extremities
- High-risk sexual contact

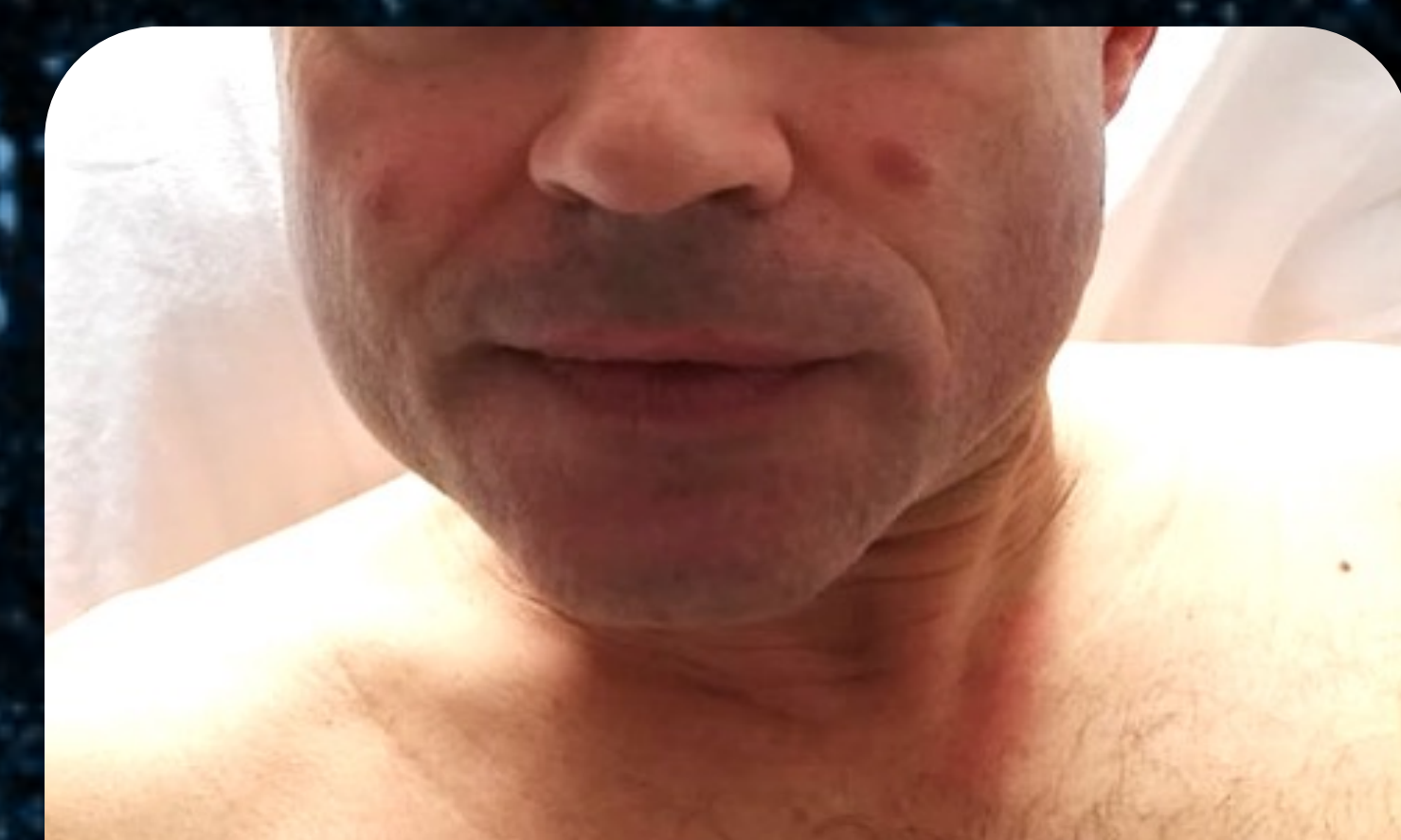
NODULAR SECONDARY SYPHILIS with ocular and auricular early neurosyphilis

TREATMENT AND OUTCOME

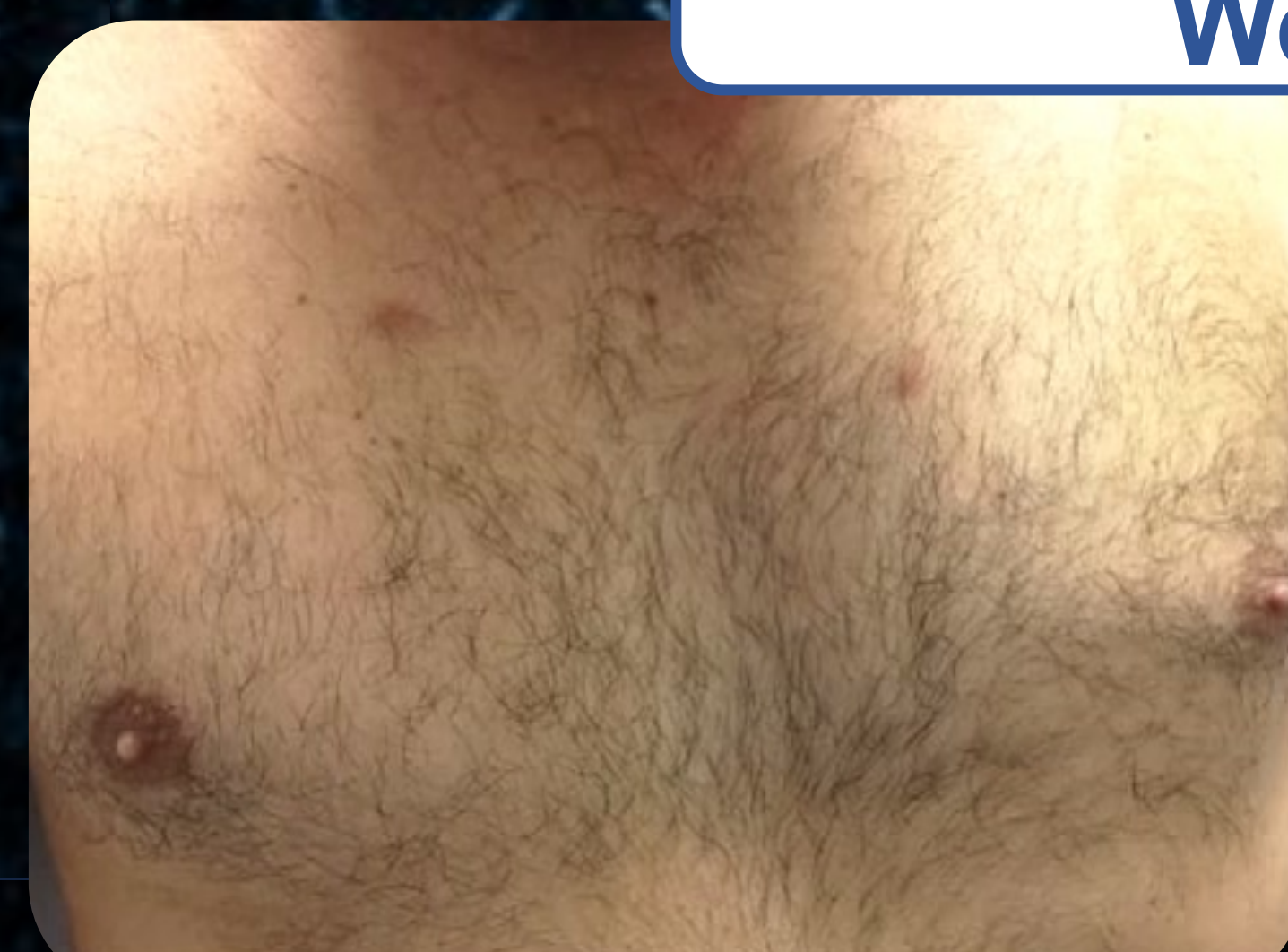
- Benzathine penicillin G 3.000.000E IV 6x/day for 14 days
- No Jarisch-Herxheimer reaction
- Significant improvement of skin lesions and cranial nerve damage 6 weeks after treatment



Before treatment
Week 0



After treatment
Week 6



NEUROSYPHILIS: WHAT TO KNOW

- *Treponema pallidum*
 - Lymphatic and hematological spread after infection to different organ systems
- **CNS neuroinvasion in ALL patients ↔ failure of clearance in SOME → neurosyphilis**
- No subdivision in primary, second, latent or tertiary stage
- Five types
 - **Early:** asymptomatic, meningeal, meningovascular
 - **Late:** general paresis, tabes dorsalis
- Perform lumbar puncture for CSF analysis
- Treatment
 - **IV** penicillin G for 14 days every 4-6 hours
- Offer pre-exposure prophylaxis (**PrEP**) to high-risk patients
 - Increased risk of HIV co-infection



Trivia: the background of this poster is derived from images of *T. pallidum* spirochetes seen by dark-field microscopy in 1910 by Gastou and Girauld (Images created using Biorender®)

References

1. Workowski et al. Sexually Transmitted Infections Treatment Guidelines, 2021. MMWR Recomm Rep. 2021 Jul 23;70(4):1-187.
2. Gonzalez H, Korolnik JJ, Marra CM. Neurosyphilis. Semin Neurol. 2019 Aug;39(4):448-455.