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Detection of *Trichophyton indotineae* in Austria: a case report

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Objectives and aim: *Trichophyton* (*T.*) *indotineae* (Fig. 1) is a newly described species of dermatophyte. This fungal pathogen is widespread in India and is responsible for chronic or recurrent widespread superficial infections (Fig. 2-3). It is often associated with resistance to terbinafine, that results from a point mutation in the gene encoding squalene epoxidase.

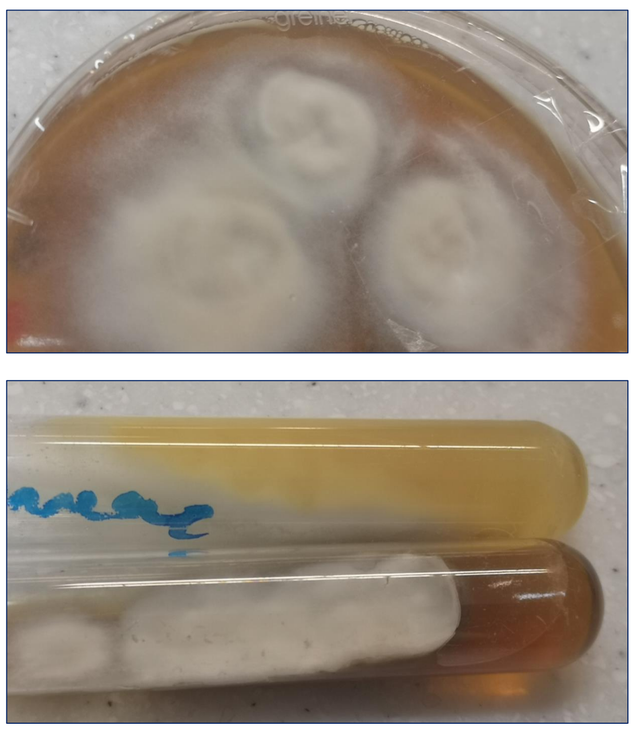

Fig 1: Culture of *T. indotineae*

Fig 2: Spreading of infections caused by *T. indotineae* **(Jabet et al., 2023)**

Fig 3: Extensive dermatomycosis by *T. indotineae* (Uhrlaß et al., 2022)

Patients and Methods:

- A female patient (32 years old), origin in India, with extensive tinea corporis (Fig. 4), referred to the Outpatient´s centre (Juni 2022) for fungal diagnosis.
- Cultivation of skin scrapings on Sabourand agar at 28° for 21 days
- Initial identification based on both the colony morphology and microscopic observation.
- Final identification of the *Trichophyton* species by sequencing of the entire ITS region of the rDNA and a subsequent database search (courtesy of Labor Mölbis, Leipzig, Germany).
- Antifungal susceptibility by the Ezy MIC™ (Himedia).

Fig 4: Tinea corporis

Results:

- Diagnosis by culture: member of the ***T. mentagropyhtes/interdigitale*** complex, suspicious for ***T. indotineae***.
- Sequencing: clear and 100% match with the species ***Trichophyton indotineae* = *T. mentagrophytes* ITS genotype VIII India**.
- Antifungal susceptibility testing: undiminished susceptibility to terbinafine.

Conclusion:

The results proved the identity of the dermatophyte ***Trichophyton indotineae* = *T. mentagrophytes* ITS genotype VIII India** and confirmed the spread of the fungus across Europe. It was one of the first *T. indotineae* isolates in Austria.

Update:

In early 2023, we identified another case of dermatomycosis caused by *T. indotineae*. As before, the identity of the strain was confirmed by sequencing (Mölbis Laboratory, Leipzig, Germany). This time the strain showed complete resistance to terbinafine.

Literature:
- Uhrlaß, et al. J. Fungi 8 2022; 7:757.
- Nenoff, et al. Indian J Dermatol, Venereol Leprol. 2022; 88, 5: 586-589.
- Jabet, et al. Med Mycol 2023, 33 (3): 101383