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## **A patient from Mali with *Actinomadura bangladeshensis*-induced foot mycetoma: a diagnostic challenge**

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## Text

A 51-year-old man from Mali, living in France since 1990 and travelling yearly to Kayes area in Southwestern Mali, presented in July 2018 with a painless left-foot firm swelling (Fig. 1A) of 8-year duration. Foot skin was covered by deep fistulas. Diagnosis of actinomycetoma was confirmed by identifying in the pus discharged from fistulas white grains (Fig. 1B) containing filamentous branched and ramified Gram-positive bacilli (Fig. 1C, Gram staining, 100-fold magnification). Bacilli were identified by 16S rRNA gene sequencing as *Actinomadura bangladeshensis* (99.2% nucleotide identity over 493 bp in the GenBank database, strain 3-46-b(3), NCBI Reference Sequence NR\_041618.1). Culture returned positive after 22 days but due to low inoculum and slow growth speed of these bacteria, no *in vitro* susceptibility testing was possible.

X-Ray and MRI showed cortical erosions on first metatarsal and navicular bones (Fig. 1D).

Treatment with trimethoprim-sulfamethoxazole was started and is still pursued for at least one year with possibility of amputation in case of failure.

Mycetoma is a chronic soft tissue infection that creates sinusoidal cavities, fistulized to the skin and producing grains. Grains correspond to the aggregation of filamentous pathogens surrounded by biofilm, either bacteria in actinomycetomas or fungi in eumycetomas. Grain colour may orient towards fungal or bacterial origin. Mycetomas remain endemic in tropical countries and are considered by WHO as a neglected tropical disease. They are sporadic in developed countries and reported almost only in migrants from countries between 30<sup>th</sup> northern and 15<sup>th</sup> southern parallels, also known as “Mycetoma Belt”. However, this term should no more be used because mycetomas are described elsewhere as in Southern Europe.

Trimethoprim-sulfamethoxazole is the standard treatment for actinomycetomas as in our case with overall response rate around 60 to 70 % according to the involved species and the authors.

