

Actinomycetoma

Actinomycetoma, maduromycosis or Madura foot is a chronic suppurative infection of the skin, subcutaneous tissues and bone, that affects the lower legs, foot and hands.

The classic clinical triad of actinomycetoma is tumor or soft tissue swelling, sinus tracts, and characteristic macroscopic grains. The grains typically represent aggregates of the infecting organisms. The progression of the disease is slow and painless, but may affect deep structures such as muscles, tendons, joints and bones. The skin shows a wooden fibrotic induration due to dermal sclerosis.

Secondary bacterial infection by *Staphylococcus aureus* or bone expansion may cause pain. The causative agent enters through local trauma (cut on the hand or foot splinter) from contaminated soil.

In advanced cases, deformities or ankyloses (abnormal stiffening and immobility of a joint due to fusion of the bones) and their corresponding disabilities can appear. Patients who are immunocompromised or who have undergone transplantation can develop invasive infection.

Actinomycetoma can be caused by:

Anaerobic agents (*Actinomyces israelii*)

Aerobic agents (*Nocardia brasiliensis*; *N. asteroides*; *N. otitidiscaviarum*; *N. transvalensis*), *Streptomyces somaliensis*, *Actinomadura madurae* and new species of *Nocardia harenae* and *N. takedensis*.

Nosocomial transmission of *Nocardia farcinica*, one of the agents of actinomycetoma in postoperative surgical infections, has been reported. Lesions on the chest and back are frequently caused by *Nocardia* species, whereas lesions on the head and neck are usually caused by *Streptomyces somaliensis*.

Treatment

Historically, sulphonamides, dapsone and trimethoprim / sulfamethoxazole (TMP-SMX) are used. However, in patient's resistant to TMP-SMX, other antibiotics were used, such as streptomycin, isoniazid, rifampicin and minocycline. Currently, the first-line treatment is amikacin combined with TMP-SMX. In allergy cases to the combination, should be replaced by amoxicillin-clavulanate with netilmicin. In cases resistant to TMP-SMX, amikacin is associated to imipenem or meropenem.

However, we believe antibiotics combined with surgical procedures have the best therapeutic response.

