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# Madura foot complicated of varicose veins and osteolysis

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**ABSTRACT:**

Madura foot or Mycetoma is a fungal or bacterial infection of tissues extending from the cutaneous layer to the underlying fascia and bone, with an indolent course. We report a case of madura foot in a 71-year-old woman complicated of varicose veins and bone lysis. The diagnosis was performed thanks to the three-dimensional CT that detected the bone and vascular complications and aided in a preoperative surgical plan. Direct microscopic examination of exudates showed a fungal origin due to “Eumycetoma”. The patient underwent surgery followed by anti-fungal medical treatment for several months, with favorable improvement.

**KEYWORDS:** Madura foot; varicose veins ; bone lysis, CT

## INTRODUCTION:

Madura foot or Mycetoma is a rare infectious disease that often presents an indolent evolution. It causes destructive changes to the skin and soft tissue and can progress deeper to involve bone. Madura foot represents a diagnose and treatment challenge. Imaging plays a crucial role in the manage of the disease and the detection of its complications.

In this article, we report the case of a 71-year-old woman who presented a Madura foot complicated of varicose veins and bone lysis. We underline via this case the important place of imaging especially the CT in the diagnosis identification and the detection of complications.

**CASE REPORT:**

A 71-year-old woman, followed for type 2 diabetes, who presents several months history of a painful tumefaction of her left foot. Physical examination revealed a solid tumefaction associated to skin fistulas with purulent and black granules exudates. Three-dimensional CT with contrast reported a voluminous infiltrative soft tissue lesion enclosing foot and ankle. The injury was ill-defined with heterogeneous contrast enhancement, associated to irregular lysis of calcaneus, talus and tarsal bones. Upstream of the lesion the legs veins were dilated and twisted. The CT result was compatible with Madura foot complicated of bone involvement and varicose veins. Direct microscopic examination of exudates showed "Eumycetoma" as a fungal origin of the lesion. The patient underwent a complex surgery that consisted of removing as much infectious tissue as possible. The patient received an anti-fungal medical treatment for 12 months. The follow-up showed a favorable improvement without signs of recurrence of mycetoma.

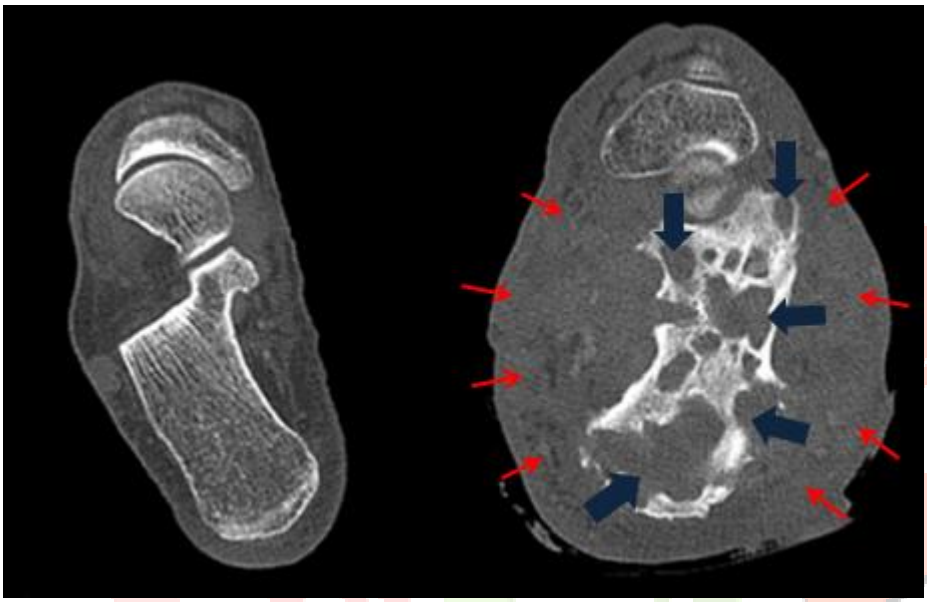

**Figure 1:** Contrast CT in axial section and in bone filter, showing in left foot a voluminous infiltrative ill-defined soft tissue masse with heterogeneous contrast enhancement (red narrows). Several bone lysis are associated (blue narrows).

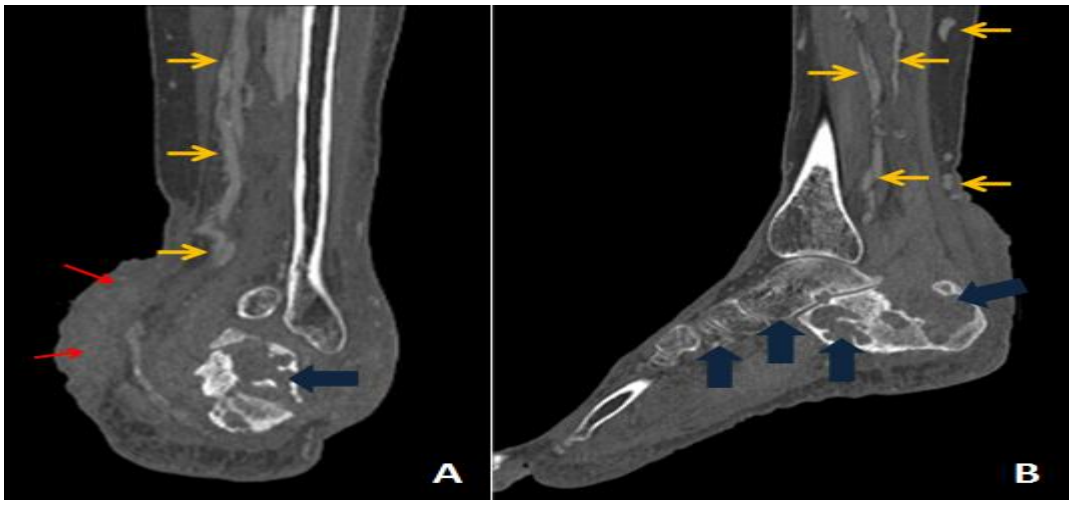


**Figure 2:** Contrast CT in bone filter, in coronal (A) and sagittal (B) reconstructions of the left foot, showing dilated and twisted legs veins as varicose veins (yellow narrows), the infiltrative infectious masse (red narrows) and osteolysis of calcaneus, talus and tarsal bones (blue narrows).

**DISCUSSION:**

Mycetoma or Madura foot is a chronic infection of the skin and subcutaneous tissues with often a solid tumefaction and possibility of bone involving. The infectious agent responsible for mycetoma can be bacterial or fungal, “Actinomycetes Species” (filamentous bacteria) and “Eumycetoma” (fungi) are the most common agents of mycetoma occurring worldwide [1,2].

Clinically, Madura foot presents as a chronic infection of the skin and subcutaneous tissues, with usually the presence of tumefaction, and exudates that content typically black, yellow or white grains. The entry of the pathogenic agent may be precipitated by a foot trauma or a skin preexisting injury [2]. Diabetes may be compounding factor like in our case. Our case is distinguished by the presence of bone involvement as an important osteolysis of calcaneus, talus and tarsal bones, associated to vascular complications presented in legs varicose veins.

Principal differential diagnoses of mycetoma are tuberculosis, nocardiosis, and malignant neoplasia, because of indolent and progressive course of the disease and its continuous spread [3].

CT with intra venous contrast agent injection is an efficient imaging modality which identifies the diagnosis of Madura foot [4]. The lesion appears as a masse or ill-defined infiltration of soft tissues that is heterogeneous and enhanced after contrast (Figure 1). Scanner evaluates also the invasion of the injury and involvement of deep tissues and bone, the bone involvement presents as osteolytic lesions (Figure 1 and 2). CT with contrast detects vascular complications which may appear as varicose veins (Figure 2), thrombosis, or pseudo aneurysm. And thanks to the three-dimensional reconstructions, CT has an important role to develop the operative planning.

Identification of the pathogenic agent is necessary to define the appropriate treatment, using conventional microbiology of discharging exudates or else tissue or bone biopsies [3,4].

Surgical excision is required for extensive lesions. Full excision of the infected tissues may not be possible, for this reason anti-infectious treatment is often prolonged after surgery [5]. An extensive follow-up period is required for patients treated for mycetoma, considering the frequent recurrence of the infection even after adequate surgical and medical treatment [5,6].

**CONCLUSION:**

Madura foot is rare infectious disease which characterized by its indolent course and the possibility of bone involvement and vascular complications.
Extensive forms of the disease require surgical excision, prolonged anti-infectious treatment and rigorous post-treatment surveillance.

**CONFLICT OF INTEREST:** none

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