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Pseudotumorous Lesion of the Scalp Revealing Actinomycosis Mycetoma: Case Report with Review of the Literature

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Abstract

Introduction: Mycetoma is an inflammatory pseudotumor localized to the subcutaneous tissue, containing fungal granules of fungal origin, or actinomycosis due to filamentous bacteria. Although the gold standard diagnosis is mycology, it gives rise to a specific granulomatous inflammation. From this perspective, histopathology can predict whether it is a mycosis or an actinomycosis, based on the characteristics of the granules, particularly their color. It is mainly found on the foot. Although rare, extrapodal localisations have been reported. We present a case of incidental discovery during the histopathological study of a multifocal pseudotumoral lesion of the scalp, with a review of the literature. **Case Report:** A 16 years old woman presented with three fistulized nodules of the scalp evolving for approximately one year with febrile episodes. Biopsies performed in response to the pseudotumoural nature of the lesion revealed a granulomatous inflammatory infiltrate composed of epithelioid histiocytes, Langhans-like giant cells and foreign bodies surrounding areas of suppurative necrosis, centered by peripheral red, club-shaped granules containing numerous filaments, suggesting actinomycotic mycetoma. **Conclusion:** Although rare, extrapodal actinomycotic mycetoma is nevertheless observed. The case we reported involved the scalp and pseudotumoral lesions. It highlights the importance of histopathology in inflammatory pathology, particularly mycotic pathology, in a context where mycological examination is sometimes unavailable.

Keywords

Mycetoma, Scalp, Histopathology, Brazzaville

1. Introduction

Mycetoma is an inflammatory pseudotumor localized to the subcutaneous tissue, containing fungal granules due to fungi, or actinomycosis due to filamentous bacteria [1]. It is most often observed on the foot, where it is known by the classic name Madura foot [2]. Men are more affected than women [1]. Extrapodal locations are rare but diverse, particularly on the scalp [3]. There are no reported cases of mycetoma in this location in the Congo, a supposedly non-endemic area. We therefore report the case of an actinomycotic mycetoma of extrapodal location in the scalp and give a brief review of the literature.

2. Case Report

A 16-year-old women residing in Brazzaville presented with a polynodular lesion (03 lymph nodes) with multiple fistulas and buding appearance on the scalp, producing serosity containing yellowish granules "Figure 1". This lesion was the subject of several medical prescriptions of uncertain nature, without success. The persistence and worsening of symptoms, associated with fever, led to a consultation with the paediatric surgery department of the Brazzaville University Hospital. Given the pseudotumoural nature of the lesion, biopsies were indicated and performed. The material was sent to the Pathology Anatomy and Cytology Laboratory.

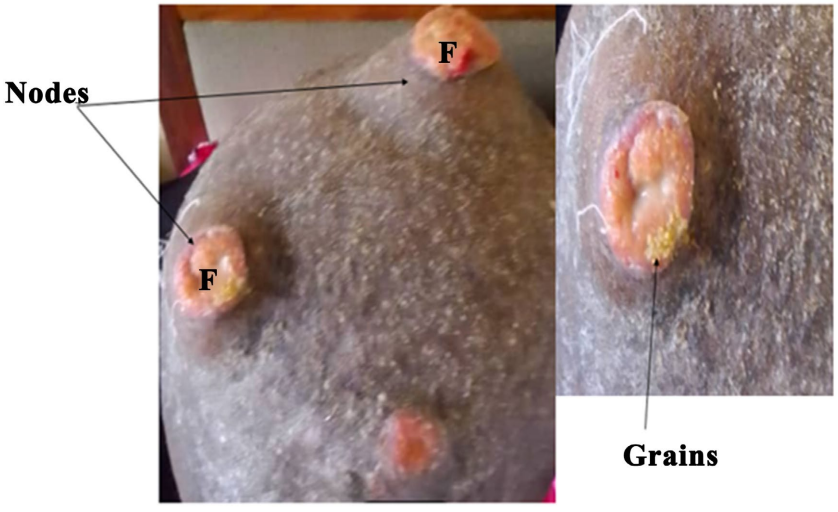

Figure 1. Gross appearance. There are fistulated (F) nodes, with yellow grains escaping.

On macroscopic examination, we received three (3) reddish and yellowish fragments of 0.4 to 1.3 cm enclosed in a cassette.

On microscopic examination, the histological sections revealed a granulomatous inflammatory infiltrate composed of epithelioid histiocytes, Langhans-like giant cells and foreign bodies surrounding areas of suppurative necrosis centered by red granules.

These granules appear as peripheral clubs and contain numerous filaments "Figure 2". Histomorphologically, this appearance is highly suggestive of an actinomycotic mycetoma. A mycological study by culture should allow the exact type to be determined.

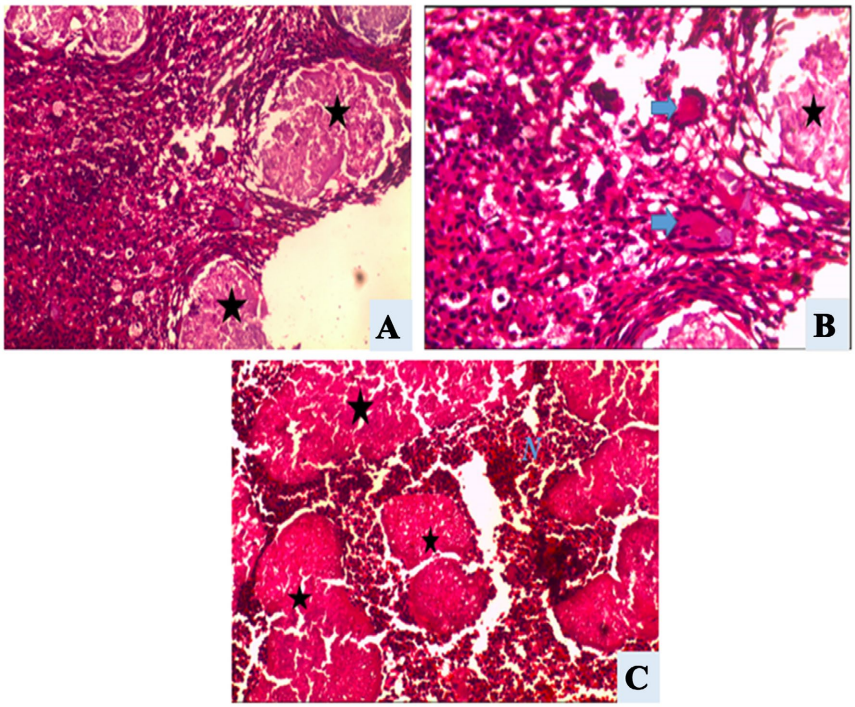

Figure 2. Microscopic appearance of actinomycetoma (A: HE ×10; B: HE ×20; C: HE ×20). Granulomatous inflammatory infiltrate of epithelioid histiocytes and Langhans-type giant cells (blue arrow). Note the areas of suppurative necrosis (**N**) made up of altered polynuclear cells centred by red granules containing numerous filaments, with peripheral clubs (★).

3. Discussion

Mycetoma is a chronic, destructive, infectious lesion of the subcutaneous tissues that gradually spreads to the skin, deeper tissues and bones. It typically occurs on the feet, and was first reported in the mid-19th century in Madurai, India, where it was initially known as Madura foot [4]. However, it can affect other parts of the body, including the scalp.

Although less common, scalp mycetoma has been reported in numerous studies worldwide and in Africa since the 1980s [5]-[7], and more recently in the 2000s [8] [9]. According to WHO data, mycetoma affects young adults, aged 15 to 30, and often found in males.

The case we report concerns a young woman, in an extremely rare extrapodal

location, not yet reported in Congo. It also highlights the importance of histological examination in the diagnosis, based on morphological features showing granulomatous inflammation surrounding a granule whose color and composition suggest an actinomycotic rather than fungal in origin, despite the absence of mycological culture studies.

The case we report illustrates the role of pathology in the diagnosis of infectious diseases caused by elementary lesions. The morphological diagnosis was guided by the yellow color of the granuloma, macroscopically, and microscopically, by the pink color of the granules and their richness in filaments. It was on the basis of these morphological features that fungal mycetoma, the main pathological differential diagnosis, was excluded. In fungal mycetoma, the granules are black [10]. The limitations of this study lie in the fact that it concerns a single case. This does not allow for any conclusions to be drawn on the epidemiological aspects. These limitations are also inherent in the fact that it was not possible to carry out a mycological analysis, either by culture or by PCR, due to the lack of an appropriate technical platform. We therefore limited ourselves to an anatomopathological diagnostic approach.

4. Conclusion

Mycetoma is a chronic inflammatory disease that, although rare, can be localized extrapodally. Histopathological confirmation is necessary to exclude a tumor entity. This clinical case, the first of its kind to be documented in the Congo, reintroduces pathological anatomy into the diagnosis of pseudotumoral infectious pathologies.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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