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CASE REPORT
RHINOENTOMOPHTHOROMYCOSIS

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Summary

Another case of rhinoentomophthoromycosis is presented as an addition to literature on this relatively new disease-entity. Its epidemiology, clinical features, diagnosis and treatment are discussed in order to create more awareness of the occurrence of this particular nasal granuloma, especially in the tropical sub-region.

Résumé

Un autre cas de rhinophycomycose est présenté comme une addition à la litérature concernant cet ensemble de maladies relativement nouveau. Son épidémiologie, ses traints cliniques, son diagnostic et son traitement sont discutés dans le but de faire prendre conscience de l'occurrence de ce granulome nasal, spécialement dans la région tropicale.

Introduction

Rhinoentomophthoromycosis is a chronic granulomatous infection of the upper respiratory-tract caused by a zygomycete, *Conidiobolus coronatus*. This is a relatively newly recognized disease when compared with infections by other fungi of the same class but of different genera, that affect other parts of the body as well.

Since it was first reported in the human subject (Martinson, 1963) other cases have been reported occurring in the tropical rain forests of the world (Clark, 1968). Until 1975, twenty-one cases from Nigeria had been published. Since this is not a common disease in the nose, this typical and proven case is an addition from Nigeria to enrich world literature on the subject.

The clinical and epidemiological aspects of entomophthoromycosis have been extensively dealt with by reports from the same department (Martinson, 1972).

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Case Report

O.O., a 21-year-old school gardener, was referred from a peripheral hospital in the predominantly Yoruba-speaking area of Nigeria, to the University College Hospital, Ibadan. He presented with an 8-month history of swelling and enlargement of the nose, bilateral nasal obstruction, pain around the nose, right eye and forehead, itching of the nose and swelling of the upper lip (Fig. 1). There was no nasal discharge or epistaxis and there was no history of trauma.

General examination revealed an otherwise healthy looking young man apart from the facial disfigurement present. On close examination of the face, there was a marked non-tender swelling of the nose extending laterally to the nasal folds, superiorly towards the forehead and inferiorly to the upper lip, ending with definite edges at the angles of the mouth. The swelling was generally smooth but lobulated on the forehead. The skin over the swelling was movable but the swelling itself was not movable over the deep structures.

On anterior rhinoscopy, both inferior turbinates were swollen (the right more than the left), with resultant narrowing of both nasal passages and there was scabbing of the surface of the right

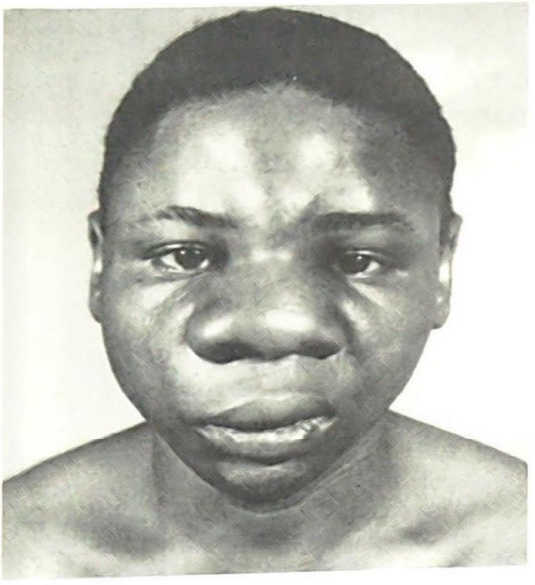

FIG. 1. Patient at the time of presentation showing lesion on the bony part of the nose, glabella and upper lip.

inferior turbinate. The nasal septum appeared normal and there was little discharge. The post-nasal space was free. The upper lip felt like a thickened eyelid.

Radiographs of the sinuses showed opacities in both nasal cavities obstructing the airway, the ethmoidal and frontal sinuses showed slight clouding due to the overlying soft-tissue but the maxillary sinuses were clear.

Because of our familiarity with this disease in our environment an accurate diagnosis of rhinoentomophthoromycosis was promptly made. A biopsy of the lip lesion was obtained through a sub-labial incision very near the growing edge on the right side. The specimen was subjected to both mycological culture and histological identification.

Biopsy specimen sent for mycology was aseptically minced and emulsified in normal saline. Loopfuls of the emulsion were innoculated on slants of Sabouraud's dextrose agar. Growth appeared after 3–4 days of incubation at room temperature. The culture showed colonies on

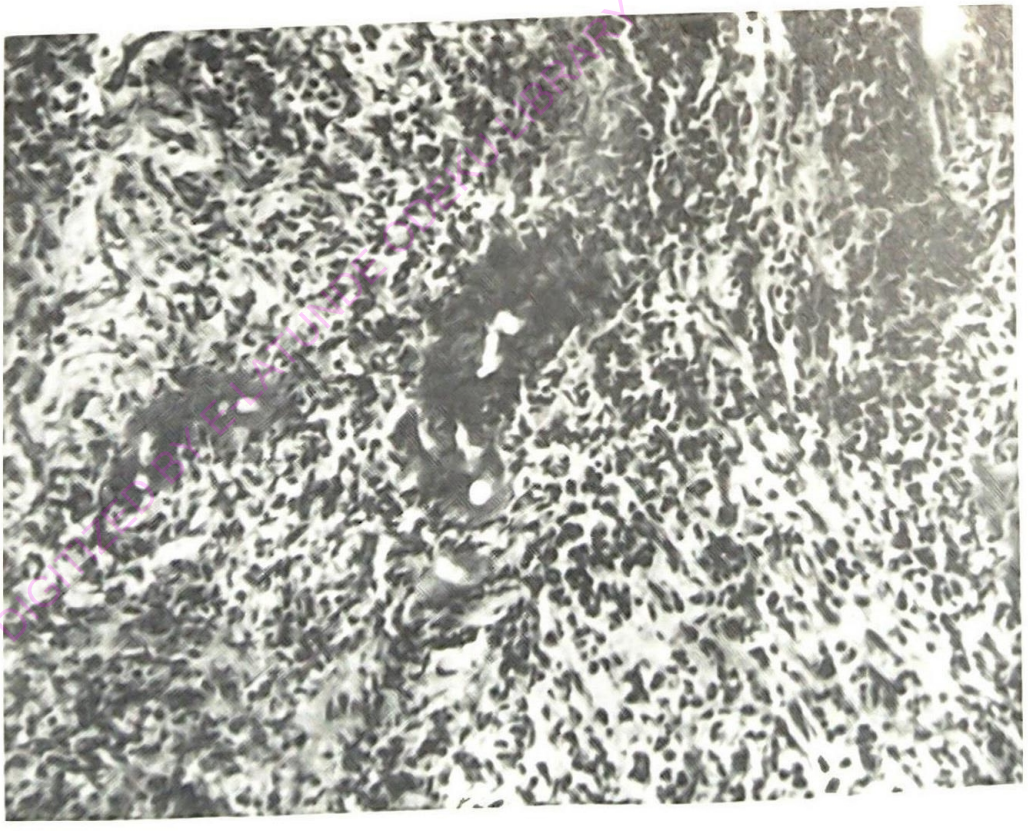

FIG. 2 Microscopic section showing hyphae in cross-section with epithelial cells in pallisades around eosinophillic granular substances. H.E.X. 200

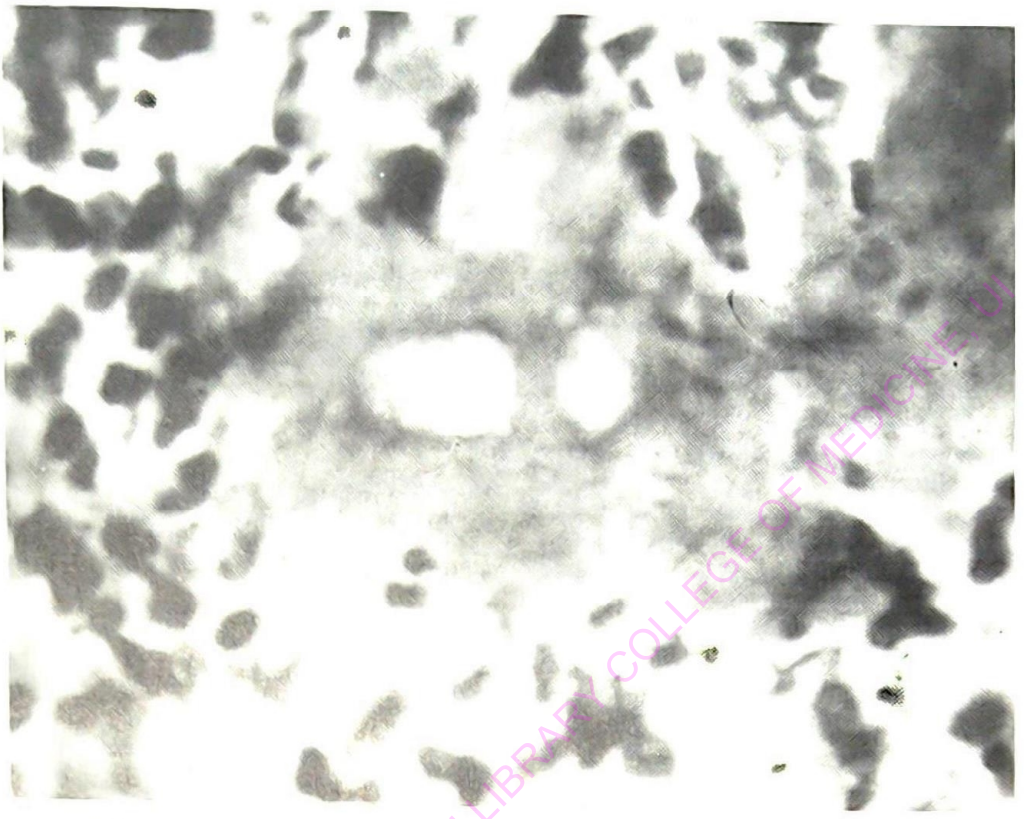

FIG. 3. Another section showing hyphae surrounded by necrotic substance with diffuse chronic inflammatory-reaction. H.E.X. 1040

the agar slopes which were at first yellow, flat and galbrous with radial furrows. On further incubation the surface colony became white and powdery and the agar slope was covered with numerous satellite colonies that soon coalesced to form a confluent mat of growth.

The histological picture was that of a granulomatous reaction characterized by the presence of large hyphae in cross-section surrounded by eosinophilic granular material and pallisades of histiocytes and giant cells which appeared to be formed by fusion of the former (Figs. 2 & 3). The hyphae were stained red by the periodic acid-Schiff method.

Treatment

From past experience in our department, treatment has been found to be very effective and more reliable with Septrin (trimethoprim and sulphamethoxazole) (Martinson, 1976). This patient was given Septrin for 6 weeks with an initial supplement of prednisolone to reduce the inflammatory reaction because of the severity of

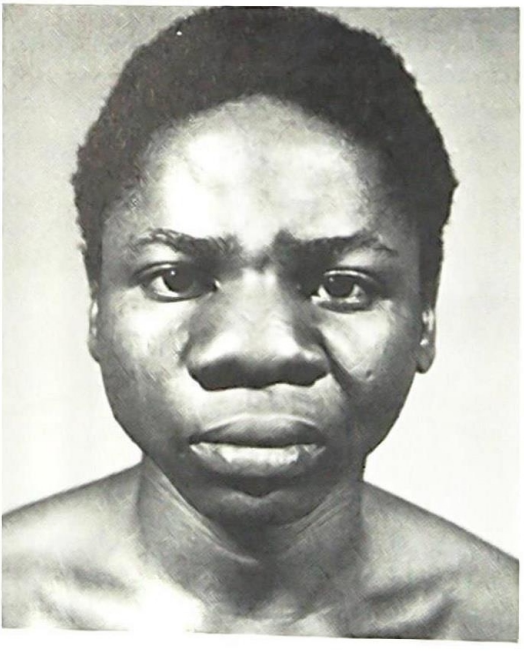

FIG. 4. Patient after 6 weeks' course treatment.

the intranasal lesion. The facial appearance had returned to almost normal at the end of the course (Fig. 4). The patient has been followed up for 1 year without any recurrence.

Discussion

Conidiobolus coronatus has been recognized since 1897 as a saprophyte on vegetation and shown to be pathogenic to some insects (Kevorkian, 1935) but it was not until about three decades after its identification that the diseases caused by it and other members of the same order began to appear in literature.

The route of infection seems to be through the anterior nasal mucosa. Since the organisms are normally commensals in this area it is possible that in a healthy person, trauma, e.g. nose-picking, direct implantation by one of the fungus-carrying insects, or a purely locally-lowered immunological state due to certain infections or its infestation by other parasites, may create the conditions needed by the fungus to become pathogenic. It is now generally known that the disease is a sub-mucous granuloma of the upper respiratory tract in which the lamina propria corresponding to the subcutaneous fatty layer of the skin is chosen as a target by the fungus in which to spread.

In our department, where extensive work has been done in the past, it is because we are alert to the possibility of this nasal granuloma having a fungal origin that mycological examinations are specifically requested in suspected cases. This particular case presented no difficulty in diagnosis.

Therapy, with a long course of septrin, has been found to be reliable over the years. This, however, has been supplemented with steroid in severe cases which show a tendency to rapid spread. Surgical intervention is limited to obtaining reasonable material for both mycological and histological studies. Extensive surgery has been known to cause further transgression by the disease.

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References

Clark, B.M. (1968) *Ciba Symposium*, pp 179-192, J.A Churchill Ltd, London.

Kevorkian, A.G. (1935) Studies in the Entomophthoraceae I. Observations on the genus *Conidiobelus* *J Agric Univ Puerto Rico*, **21**, 191-200.

Martinson, F.D. (1963) Rhinophycomycosi *J. Laryn* 691-705.

Martinson, F.D. (1972) Chemical epidemiolog al and therapeutic aspects of entomophthoromycosis *Soc. belge. Med. trop.*, **52**, 329-342.

Martinson, F.D. (1976) *International Symposium of Infection and allergy of the nose and paranasal sinuses*. pp 170-174, Isian, Tokyo.

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