

# Cutaneous cryptococcosis due to *Cryptococcus neoformans* var. *gattii*

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**Summary** A case of cutaneous cryptococcosis due to *Cryptococcus neoformans* var. *gattii* in an immunocompetent host is presented. In addition a review of the literature on this subject was carried out and a brief comment made on occurrence of the variety *gattii* in Brazil.

**Key words** Cryptococcosis, Cutaneous infection, *Cryptococcus neoformans* var. *gattii*

## Criptococosis cutánea por *Cryptococcus neoformans* var. *gattii*

**Resumen** Se presenta un caso de criptococosis cutánea por *Cryptococcus neoformans* var. *gattii* en un paciente inmunocompetente junto con una revisión de lo publicado sobre este tema. Se hace, también, un breve comentario sobre la incidencia de la variedad *gattii* de *C. neoformans* en Brasil.

**Palabras clave** Criptococosis, Infección cutánea, *Cryptococcus neoformans* var. *gattii*

Cutaneous lesions may occur in two clinical forms of cryptococcosis: disseminated and cutaneous form. In the disseminated form the lesions result from hematogenous dissemination of the fungus; in the cutaneous form, presumably, caused by transcutaneous introduction of the fungus. Both these types of cutaneous lesions most often occur in infections caused by *Cryptococcus neoformans* var. *neoformans*, that usually affect an immunocompromised host [1-3].

The rarity of skin lesions caused by *C. neoformans* var. *gattii* justify this report of a case with a brief comment on occurrence of the variety *gattii* in Brazil.

### CASE REPORT

After one month history of cough with mucoid sputum, weight loss and fatigue, the patient, a 37-year-old, Caucasian man, presented many cutaneous lesions on his face. Later on, because he complained of headache, photophobia, double vision and vomiting, he was admitted to our hospital.

Physical examination revealed a lucid, oriented, coherent patient. He presented stiff neck and positive Kernig's, Brudzinski's, and Lasègue's signs. Many erythematous, sessile, dome-shaped nodules, covered with crusts, distributed on the cheeks and chins were observed (Figure 1). Ophthalmoscopy revealed bilateral papilledema. Hemogram and biochemistry blood profile were within normal values. Chest X-ray shows a mass in the left upper lobe. No abnormalities were disclosed by a brain TC scan. Lumbar puncture yielded a clear fluid with hydrostatic pressure of 700 mm and at examination presented the following values: protein 120 mg/dl, glucose 57 mg/dl and leukocytes 75/mm<sup>3</sup>, 80% of which lymphocytes. Mycological examination detected encapsulated yeast like organisms in the CSF, sputum and in cut sections of the skin lesions; these organisms were isolated in culture and identified as *C. neoformans* var. *gattii* serotype B. Cryptococcal antigen testing of CSF and serum was positive at dilution of 1:2048 in both specimens.

The patient was treated with amphotericin B and flucytosine. At the fourth month of therapy remission of skin lesions was obtained (Figure 2), however a persistent headache and cough remained. A new chest X-ray was performed showing nodules and micronodules in the right upper lobe and a subpleural lesion in the left upper lobe. Sputum examination disclosed acid-fast bacilli. For this reason the patient was treated with isoniazid, rifampicin and ethambutol and antifungal therapy was discontinued. Eight months later the patient was readmitted to the hospital presenting a relapse of pulmonary cryptococcosis. Then he was submitted to a lobectomy for the resection of a lung mass in the left upper lobe and received ketoconazole. Histologic examination of the excised lesion revealed a granulomatous inflammatory reaction with fibrosis and necrosis; special stains revealed a large number of encapsulated budding yeast identified as *C. neoformans*. After four months of antifungal therapy, cryptococcus antigen tests in the serum and cerebrospinal fluid were negative.

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Figure 1. Cutaneous lesions on the face due to *C. neoformans* var. *gattii*.

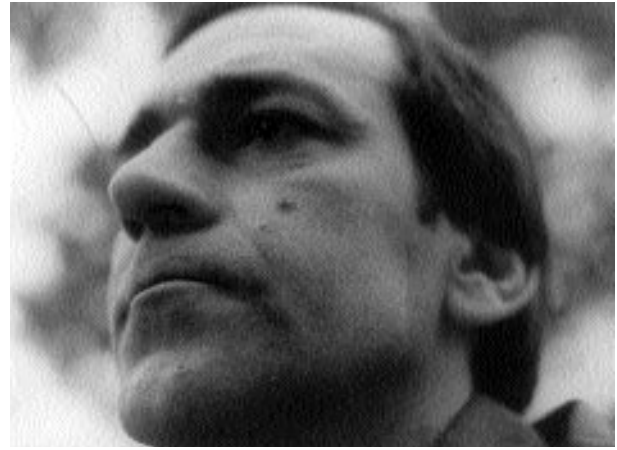


Figure 2. At four months of therapy, showing the remission of the skin lesions.

Fifteen years (1984-1999) later the patient was seen free of symptoms.

## DISCUSSION

To our knowledge only two reports on cutaneous lesions caused by *C. neoformans* var. *gattii* have been published. One of them in a patient with the disseminated form of cryptococcosis [4]; another one in a patient with the cutaneous (primary) form of the disease [1]. Both patients lived in Australia, where *C. neoformans* var. *gattii* is an important pathogen [3].

Our case in a Brazilian patient presents some similarities with the Australian case of Riddell and Entwisle [4]: the localization of the skin lesions and the association with cerebral and pulmonary manifestations of the disease.

In Brazil, *C. neoformans* var. *gattii* is endemic in the Northeastern Brazilian region, where it is the agent of 71% of the cases of cryptococcosis [5]. In the Southeastern and Southern Brazilian regions, respectively, it was identified in 36% of the serotyped isolates [6] and was the agent of 13% of the cases of the disease [7].

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