

Primary cutaneous cryptococcosis in an immunocompetent patient *

Criptococose cutânea primária em paciente imunocompetente

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Abstract: The authors report a primary cutaneous cryptococcosis, caused by *Cryptococcus neoformans* in immunocompetent patient, a farmer who developed extensive lesions at the site of an injury caused by one of the chickens on his right forearm, while he was cleaning out his barn. Oral treatment with fluconazole was totally successful. A review of the literature showed the rarity of cutaneous cryptococcosis in immunocompetent patients and in contrast, that skin lesions frequently occur in immunocompromised patients.

Keywords: Cryptococcosis; *Cryptococcus neoformans*; Fluconazole

Resumo: Os autores relatam caso de Criptococose cutânea primária, causada pelo *Cryptococcus neoformans*, em paciente imunocompetente, fazendeiro que desenvolveu extensivas lesões, no antebraço, após injúria provocada por galináceo, quando fazia limpeza de seu celeiro. Tratamento oral com fluconazol resultou em cura total. A literatura relata raridade de criptococose cutânea primária em imunocompetentes e sua relativa frequência em imunodeprimidos.

Palavras-chave: Criptococose; *Cryptococcus neoformans*; Fluconazol

INTRODUCTION

Cryptococcosis is a fungal infection caused by two varieties of *Cryptococcus neoformans*, with 5 (five) serotypes, that is, *C. neoformans var. neoformans* (serotypes A, D and AD) and *C. neoformans var. gatti* (serotypes B and C).^{1,2}

Cryptococcosis has been found mainly in patients with immunodeficiency, generally carriers of the Acquired Immunodeficiency Syndrome (AIDS), and is rarely observed in immunocompetent patients.^{1,5}

C. neoformans var. neoformans frequently occurs in immunodepressed patients and the *C. neoformans var. gatti* is more common in the immunocompetent.^{1,5}

The most utilized treatment for cryptococcosis is fluconazole, with a 600 mg daily dose and average duration of 40 to 60 days; all of the cases reported in the literature have had successful outcomes.^{6,7,8}

CASE REPORT

A 67-year-old male patient residing in Blumenau-SC, a poultry farmer, reports that 60 days ago, while he was cleaning a chicken coop he was scratched by a hen on the right arm. Erythematous spots appeared around the lesions, with "small blisters" and intense itching that spread onto the forearm with the onset of open wounds.

The dermatological examination showed the presence of nodular lesions, with high borders and ulcerated, depressed center surrounded by multiple excoriations and lesions, ulcerated in the anterior surface of the right forearm region, with exudation and suppuration (Figures 1 and 2).

General Examination: The patient was white, lucid, hypertensive, his pulse was regular and the lungs were clear to auscultation.

Laboratory tests - Glucose 89.0/ml; total cholesterol 232; hemogram with hemoglobin 15.5, eosinop-

Received on 01.04.2011.

Approved by the Advisory Board and accepted for publication on 10.05.2011.

* Study carried out at a Private Clinic and Regional University Foundation of Blumenau (Fundação Universidade Regional de Blumenau - FURB) – Blumenau (SC), Brazil.

Conflict of interest: None / *Conflito de interesse: Nenhum*

Financial funding: None / *Suporte financeiro: Nenhum*

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FIGURE 1: Primary cutaneous cryptococcosis. Patient with nodular, ulcerated and crusty lesions

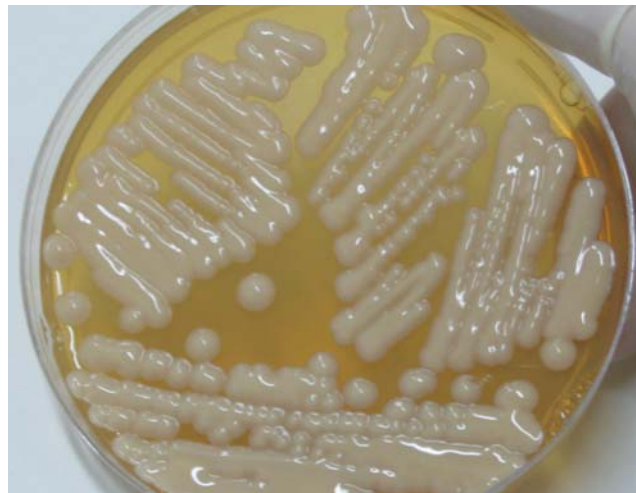


FIGURE 3: *Cryptococcus neoformans*. Growth of milky colonies of *Cryptococcus neoformans*

hils 2.0; normal platelets; sodium, 143 and potassium 5.5 mmol/l. Immunoglobulins were within normal levels: IgG (1027.0mg/dL), IgM (79.0mg/dL) and IgA (207.0mg/dl) .

HIV1 and HIV2 Test - Method: Chemiluminescence - CMIA (Architect i2000SR)

RESULT: Sample non-reactive to HIV - S/CO 0.10 (Normal = < 1.0)

Lung X-ray without alterations.

A direct mycological examination with India ink made encapsulated and gemmulated forms typical of *Cryptococcus* sp. visible and culture showed growth of milky colonies typical of *Cryptococcus neoformans* (Figures 3 and 4). In view of the direct mycological and culture results, the biopsy and anatomopathological examination were not carried out.

The definitive diagnosis was primary cutaneous cryptococcosis in immunocompetent patient.

The treatment prescribed was Fluconazol at the dose of 450 mg per day (3 capsules/day) during 40 days, which achieved complete healing, with total regression and healing of lesions (Figure 5). At the follow-up appointment after 60 days the patient was healthy, with only residual scars.

DISCUSSION

Cutaneous cryptococcosis is more frequent in patients with the Acquired Immunodeficiency Syndrome (AIDS), who present multiple and varied lesions simulating molluscum contagiosum, acneiform, nodular, herpetiform lesions, cellulitis or even simulating keloids.⁸⁻¹⁰



FIGURE 2: *Criptococose cutânea primária*. Lesões nodulares, bordos elevados com ulceração central

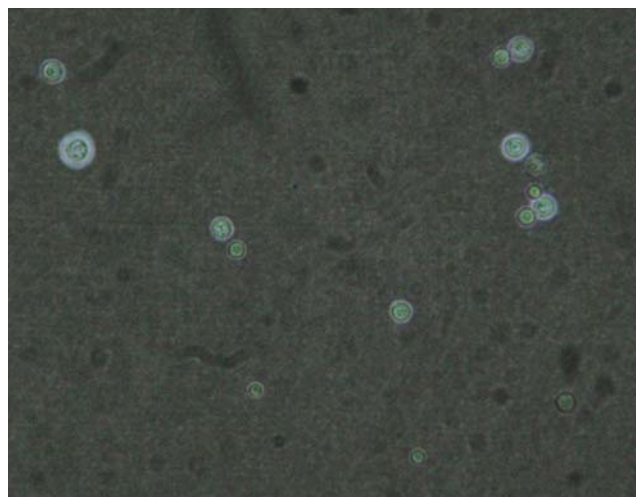


FIGURE 4: Direct mycological examination with India ink . Presence of gemmulate spores typical of *Cryptococcus* SP

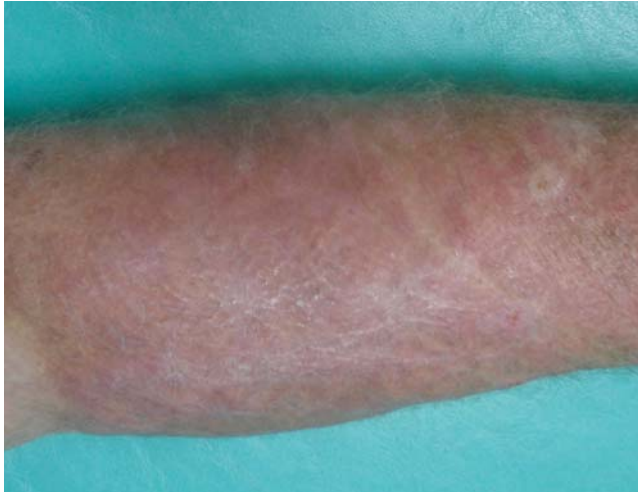


FIGURE 5: Total regression of Cryptococcosis. Cicatricial lesions after a 60-day treatment with fluconazole

In the case reported, the lesions are nodular, erythematous, with small centered ulcers with exudation. This immunocompetent patient had a full therapeutic response to fluconazol.

The culture showed growth of *Cryptococcus neoformans* colonies, that may be of the *neoformans* and/or *gatti* variety, which we were unable to determine; however, the literature reports that in immunocompetent patients like this the most common incidence is of *Cryptococcus neoformans var. gatti*.^{1-5,11}

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Acknowledgment:

Special thanks to the Microbiology sector of Hospital Santa Isabel de Blumenau-SC.

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How to cite this article/Como citar este artigo: Nasser N, Nasser Filho N, Vieira AG. Primary cutaneous cryptococcosis in an immunocompetent patient. An Bras Dermatol. 2011;86(6):1178-80.