

*Short communication*

# Non habitual microscopic forms of *Histoplasma capsulatum* in disseminated disease

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## Abstract

This paper communicates the presence of aberrant microscopic forms of *Histoplasma capsulatum* in a sample obtained by scrapping of the skin lesion and stained with a rapid modification of the Grocott technique. The AIDS patient was treated with cream contained corticoids and antifungal and antibacterial antibiotics by an erroneous diagnosis. Once the etiologic diagnosis was achieved, oral itraconazol was administrated at the daily dose of 400 mg during at least six months. These non habitual forms described in the literature as "aberrant variants", can be interpreted as an "adaptive phenomenon" of this termodimorphic fungal specie, as response of the ecologic alterations produced by antibiotic on the local antagonic bacterial microbiota, the deleterous activity of antifungal on the fungal cells and the local immunodepression produced by the corticoids.

**Keywords:** aberrant *Histoplasma capsulatum*; AIDS associated histoplasmosis; Endemic Mycoses and AIDS

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Histoplasmosis is a systemic mycosis endemic from argentine humid Pampa and other regions of South and North America, produced by termodimorphic fungal specie: *Histoplasma capsulatum* var. *capsulati*. It is the endemic systemic mycoses most frequently associated with AIDS in our country, producing disseminated clinical forms with multiple localizations<sup>[1]</sup>.

The cutaneous lesions secondary to the sanguineous dissemination of the etiological agent from the primary pulmonary infection, are very frequent in the AIDS patients treated in the Francisco J. Muñiz Hospital<sup>[2]</sup>.

In these cases, the diagnosis of histoplasmosis is achieved by microscopy of the samples obtained by

scrapping of the lesions, stained with Giemsa or Gomori - Grocott techniques. The presence of typical intracellular little yeasts is presumptive of histoplasmosis, and this finding is confirmed by cultures<sup>[3]</sup>.

This study communicates the presence of abundant "aberrant" of *Histoplasma capsulatum* in a smear performed with tissues obtained by scrapping of a lesion located in the superior labium. As observed in smears stained with a rapid modification of the Gomori - Grocott technique<sup>[4]</sup>, but not with the conventional Giemsa, the aberrant forms consisted in large yeasts (Figure 1), pleomorphic forms (Figure 2) and pseudohyphae (Figure 3), with either intra or extracellular location. Although, these aberrant forms of *Histoplasma capsulatum* were accompanied with morphologically typical yeasts as observed in the Figure 4.

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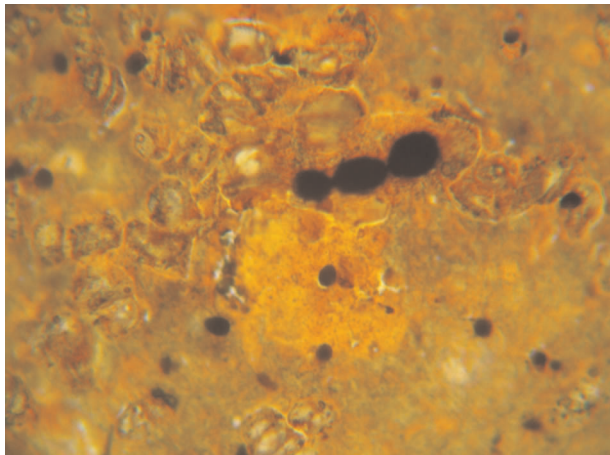


Figure 1: Large yeasts of *H. capsulatum* forming a short chain and other yeasts with habitual size. Smear of the scraping of the lesion stained with a rapid modification of the Grocott technique (1.000x).

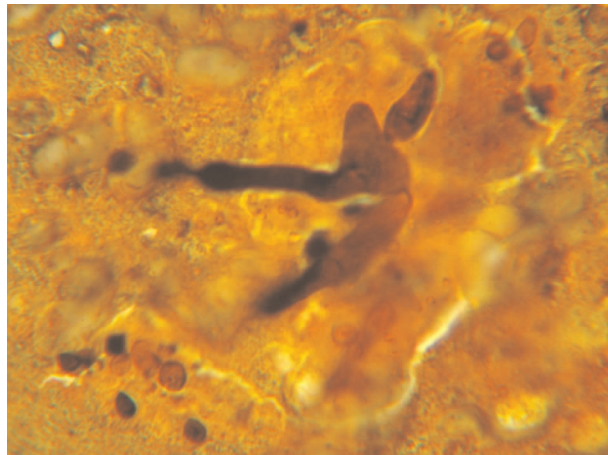


Figure 2: Pleomorphic structure of *H. capsulatum* in the same smear (1.000x).

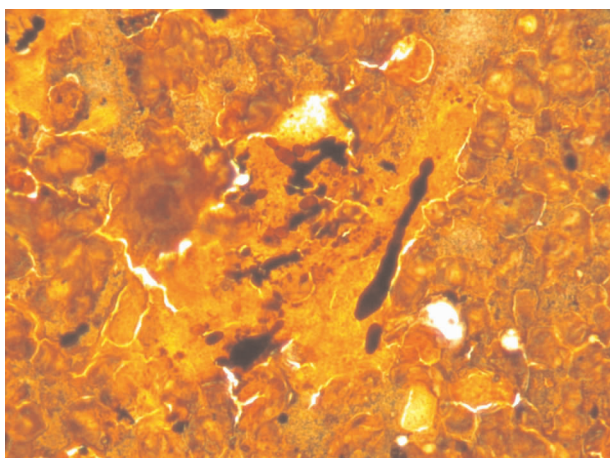


Figure 3: Pseudohypha of *H. capsulatum* in the same smear (1.000x).

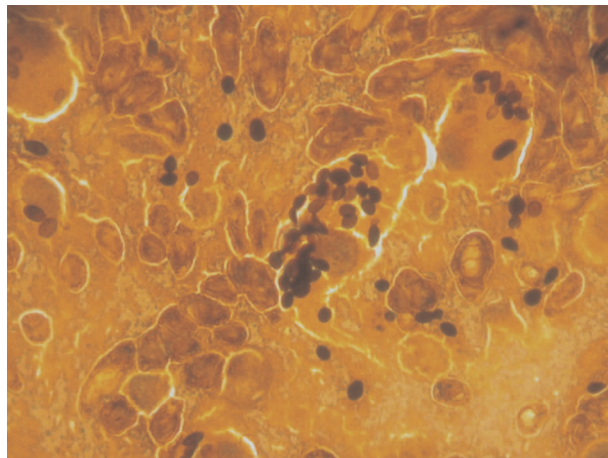


Figure 4: Predominant yeast-like habitual forms of *H. capsulatum* in the same smear (1.000x).

The patient show ulcerated and scabbed lesion and was previously treated locally with a cream containing corticoids, antifungal and antibacterial antibiotics, as consequence of a clinical erroneous diagnosis. Once the etiological diagnosis was established, the patient was orally treated with itraconazole, at the daily dose of 400 mg, administered during at least six months<sup>[5]</sup>.

These non habitual forms described in the literature as "aberrant variants"<sup>[6]</sup>, can be interpreted as an "adaptive phenomenon" of this thermomorphic fungal specie, as response of the ecologic alterations produced by antibiotic on the local antagonic bacterial microbiota, the deleterous activity of antifungal on the fungal cells and the local immunode-

pression produced by the corticoids<sup>[7]</sup>.

The previously described changes were cited by Eisseberg et al, who observed that many strains of *Histoplasma capsulatum* spontaneously give arise when growth in broth or after the ingestion by epithelial cells "in vitro", variants different to the parents. These variants lack a major cell wall constituent,  $\alpha$  - 1-3 glucan, as well as are defective in killing macrophages<sup>[8]</sup>.

For Moore, these "aberrant forms" of *H. capsulatum* are frequently observed in tissues different than lung (particularly in skin, as in our patient), where arrival by blood stream during the unapparent infection or when the disease is present<sup>[9]</sup>.

The difficulty in staining these "aberrant

forms" of *H. capsulatum* with the conventional Giemsa technique must be taken into account to employ a silver staining on the suspect samples. This latter was in our hands more sensitive than Giemsa to recognize *H. capsulatum* in different clinical samples<sup>[10]</sup>.

The unusual finding of these aberrant microscopic forms was not associated to a particular clinical form of AIDS associated histoplasmosis, with respect to the other patients treated in the Muñiz Hospital with the same condition<sup>[2,11]</sup>.

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