

Aspergillus sydowii ISOLATED FROM TWO BRONCHIAL LAVAGE SAMPLES

(*Aspergillus sydowii* aislado de dos muestras de lavado bronquial)

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Key words: *Aspergillus sydowii*, bronchial lavage.

RESUMEN

Se analizaron 2 muestras de lavado bronquial de un paciente hospitalizado en la Unidad de Pnemologia del Hospital General Otávio de Freitas, Recife, PE, Brasil. El exámen directo en ambas muestras reveló la presencia de: conidios redondos pequeños (aislados y agrupados), hialinos. En la segunda muestra se observaron paralelamente células de levaduras, ovales, oblongas y gemantes. Se obtuvieron en ambas muestras, cultivos puros de *Aspergillus sydowii* y *Candida albicans*.

INTRODUCTION

Pulmonary aspergillosis is an opportunist disease, frequently occurring as a result of pre-existing lesions as in other etiologies. It presents distinct clinical forms, such as allergic bronchopulmonary, invasive and intracavitary (fungal ball or aspergilloma); the most commonly found etiologial agents are the species *Aspergillus fumigatus*, *A. flavus* and *A. niger* (Conant et al., 1971; Rippon, 1982; Wanke, 1984; Lacaz et al., 1991).

According to Wanke (1982) in Brazil this mycosis has not been the subject of much study and it is seldom diagnosed.

Various studies show that there may be an association of pulmonary aspergillosis and pulmonary tuberculosis (Butz et al., 1985; Morozov et al., 1989; Gaeta et al., 1992) and the occurrence of post tuberculosis aspergillosis has been referred to by various authors (Gonzales et al., 1985; Stamatis & Greschuchna, 1988; Kreisel et al., 1990; ; Kohno et al., 1992; Maesaki et al., 1993; Wex et al., 1993).

Neoplastic processes bring in their wake alterations

SUMMARY

Two samples of bronchial lavage of a patient hospitalized in the Pneumology Unit of the Otavio de Freitas General Hospital, Recife, PE, Brazil were tested. The direct examination of the two samples revealed the presence of small round hialine conidia (isolated and grouped); in the second sample, apart from these findings, the presence of oval and oblong yeast cells with simple budding was determined. The pure cultures of *Aspergillus* obtained from the two samples of bronchial lavage were identified as *A. sydowii* and pure cultures of *Candida* were identified with *C. albicans*.

in the hosts which favour opportunist fungal infections, amongst which are those caused by the species *Aspergillus* (Ferreira et al., 1983; Geftter et al., 1985; Salerno et al., 1986; Vidotto et al., 1986; Stokes et al., 1989., Pizzo & Walsh, 1990; Grillot et al., 1991; Smith & Beneck, 1991; Elias et al., 1993).

This paper has as the only objectives to detect, isolate and identify fungi of the respiratory systems of patients hospitalized in this hospital.

MATERIALS AND METHODS

Two samples of bronchial lavage, collected 3 months apart, were processed from a 39 year old, male patient, a native of Recife, hospitalized in the Pneumology Unit of the Otavio de Freitas (SANCHO) General Hospital, who had been diagnosed with diabetes mellitus and pulmonary tuberculosis with a non-realized resistant Bacillus-alcohol-acid (BAAR), with negative histopathological neoplastic cells, and positive for filamentous

fungi. The two samples of bronchial lavage were obtained and supplied by bronchoscopy and had been sent to the Mycology Department where they were duly processed for direct examination and culture. The time between collection and manipulation of the clinical samples did not exceed 2 hours.

The direct examination of the bronchial lavage samples was undertaken on their native state (without colouring or clarifier).

The 2 samples of bronchial lavage were seeded in duplicate in Petri dishes with Sabouraud agar plus 0.5% of yeast extract (YE) and 50 mg of chlorophenicol /l, and incubated at room temperature (RT) 28-29°C and 37°C.

The cultures which arose after being purified were maintained in the above-mentioned means of culture without antibiotics and held in a test tube.

For identification and classification Raper & Fennel (1965) were consulted for the *Aspergillus* strains as well Kreger-van Rij (1984) and Barnett et al. (1990) for the yeast strain.

RESULTS

The direct examination of the 2 bronchial lavage samples revealed the presence of small, round hialine conidia, isolated and grouped; in the second sample, apart from the spores already mentioned, the presence of oval and oblong yeast cells with simple budding was noted.

The *Aspergillus* pure cultures obtained from the 2 samples of bronchial lavage in Sabouraud agar +YE+chlorophenicol, both at RT and 37° C, were identified in Czapek and Malt agar as *A. sydowii*. After being purified, the *Candida* cultures obtained from the second sample of bronchial lavage were identified as *C. albicans*.

The 2 samples of *A. sydowii* (3631 and 3632) and *C. albicans* (3620) are deposited in the URM-Mycoteca of the Mycology Department, Centre of Biological

Sciences, Federal University of Pernambuco, Recife, PE, Brazil.

DISCUSSION

In the literature the association between pulmonary aspergilosis and pulmonary tuberculosis was reported by Tomlinson & Steven (1987), and Kumar et al. (1992) and with diabetes mellitus by Karen et al. (1988).

Through clinical, histopathological and serological examinations, as well as mycological examination of the sputum and bronchial secretion, pulmonary aspergilosis cases were diagnosed which have the species *A. fumigatus*, *A. niger* and *A. flavus* (Tomlinson & Steven, 1987; Kumar et al., 1992) as etiological agents. Bandele et al. (1993), however consider the presence of *A. fumigatus*, *A. niger* and *Aspergillus* sp. in the sputum of patients as pulmonary tuberculosis as an infection and not as pulmonary aspergilosis. The results obtained in this work showed the presence of *A. sydowii* (Section *Versicolores*) (W. Gams et al. 1985) in the bronchial lavage samples.

The fungus *A. sydowii* was isolated from clinical samples of hands and ulcer (Raper & Fennel, 1965). As a saprophytic it has been isolated from the soil, vegetables, bird excrement and foodstuffs (Raper & Fennel, 1965; Domsch et al., 1980; Pitt & Hocking, 1985).

There is no reference in the literature about the occurrence of *A. sydowii* in respiratory systems samples

Thus we can conclude that *A. sydowii* is being mentioned for the first time as a fungus present in bronchial lavage samples detected from direct and culture examination.

It was not possible to get further clinical data on this case so we focused merely on this interesting isolation without considering possible derived pulmonary aspergilosis.

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