

Survey of Aeroallergic Fungal Spores in Al-gala Hospital, Benghazi

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ABSTRACT

Indoor aero- allergenic fungal spores was surveyed inside orthopedic ward of Al-gala hospital, Benghazi from 1st January to 31st March, 2008. Petriplates containing Sabouraud dextrose agar media was exposed at one meter above the ground level. Altogether sixteen aero-allergenic fungal spores were identified from indoor environment belonging to different classes *i.e.* Phycomycetes [2], Ascomycetes [3], Basidiomycetes [1] and Deutereomycetes [10]. Among the aero-allergenic fungal spores isolated, *Rhizopus*, *Cladosporium*, *Aspergillus* and *Penicillium* were the most dominant in the indoor environment of Al- gala hospital, Benghazi.

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Key words :

Aeroallergic fungal spores, Public health problem

Fungi are present almost every where in the indoor environments. Aeroallergic fungal spores pose a significant public health problem. More than half century of research on fungal allergy has not led to the understanding of the exposure and sensitization of allergic patients to the 2,50,000 fungal species present on earth.

Due to their extreme adaptability, the aero-allergenic fungal spores are encountered through out the year. Extensive work on the allergenicity of fungal spores has been carried out [1, 2]. Inhalation of airborne fungi may lead to cause infections [3]. It is commonly accepted that patients will sometimes suffer nosocomial infections while in the hospital [4]. However, there are only a limited number of documented cases of health problems from indoor exposure to fungi.

The most common symptoms of fungal exposure are runny nose, eye irritation, cough, congestion and aggravation of asthma. Symptom developed in people exposed to fungi depends on the nature of the fungal material, the amount of exposure and the susceptibility of exposed person. Moreover in the past years an increasing incidence of sensitization to fungal spores has been reported [5, 6].

Hospital is an important indoor environment, responsible for the spread of airborne pathogens [7]. It serves as a reservoir

of fungal spores with individuals infected with number of fungi are potentially transmitted to other individuals including patients, hospital personals and even visitors. In addition, coughing and sneezing are also important and responsible for the spread of airborne fungal diseases.

Noble and Clayton investigated the fungal flora of air of hospital wards by using slit sampler in which *Aspergillus fumigates* was the dominant type [8, 9]. Rose and Verkey's studies indicate the greatest increase in *Candida* infections and which formed the most dominant for in hospital infections [10].

Hospital indoor air quality has become an important health concern and susceptible persons have a high chance of response to these allergens.

Considering the fact that an allergenic reaction may occur with exposure to minute concentration of an allergens, airborne indoor fungal spores could create health risk for atopic individuals occupying such building.

RESEARCH METHODOLOGY

In the present study indoor air monitoring of orthopedic department of Al-gala hospital, Benghazi was carried out by using Sabouraud dextrose agar media in a Petri plate from 1st January to 31st March 2008.

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