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THE STUDY OF AEROMYCOFLORA OF THE GOVERNMENT GENERAL HOSPITAL AT NASHIK

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Abstract

The aeromycoflora of the Government General Hospital at Nashik was undertaken using Rotorod Air Sampler. The major spore types reported were Alternaria, Curvularia, Cladosporium etc. The group Deuteromycetes as a whole dominated the airspora contributing highest 43.11% to the total airspora.

INTRODUCTION

Aeromycological studies were carried out at Government General Hospital Nashik by using Rotorod Air Sampler. The present paper deals with airspora of hospital at Nashik. Nashik is an emerging metro of North Maharashtra situated on National Highway No.3, about 200 Km. from Mumbai. Airspora studies related to hospital have been made by Kulshrestha and Chauhan (2001) in certain hospitals of Agra. Their findings helped in evaluating occurrence and contribution of different spore types. The collected & compiled data will be very useful to an allergologists in treating the patients suffering from allergy due to airborne fungal spores and pollen grains. In order to understand the allergenicity of the pollen grains to an individual, the physicians would carry out the antigen tests on the patients suffering from allergy.

MATERIALS & METHODS

Air was sampled volumetrically using Rotorod Air Sampler which was placed 1 meter above the ground level in vertical position. The sampler was operated for 30 minutes twice a day between 07.00-07.30 hours and 17.00-17.30 hours.

Rotorod Air Sampler (Perkins, 1957) was used for the purpose of investigation. It is a battery operated volumetric, efficient sampler and samples at a constant rotational speed. This air sampler relies upon the high efficiency with which small airborne particles are deposited on narrow rods oriented at right angles to high velocity winds. A battery operated small electric motor with constant speed is used to whirl thin sticky coated brass rods about its axis at a constant high speed. The collecting arms of this air sampler are made up of brass. It is square in shape and slightly bent inwards. The Vertical arms are 6 cm. long and 4 cm. from the axis. Peculiarity of this sampler is that, the surface is rotated so that it strikes the spores. The speed of the electric motor is about 2300 rpm. Cello tape was cut into four equal parts each having 1.5 cm length and adhesive was applied. After exposure these tapes were mounted on slide beneath a cover glass with glycerin jelly.

The fungal spores so trapped were identified, based on morphological characters, visual identification was done by their comparison with reference slides and also from published literature.

RESULTS AND DISCUSSION

During the period of present investigation air monitoring experiment was carried out at the Government General Hospital, Nashik using Rotorod Air Sampler. During present studies, total 37 air borne components were trapped.

Out of thirty seven fungal spore types, three belong to Phycomycetes, nine belong to Basidiomycetes, one to Myxomycetes, eighteen to Deuteromycetes and three other types including hyphal fragments, pollen grains and insect scales.

During the period of present studies, the Deuteromycetes contributed highest percentage (43.11%) to the total airspora followed by the other type (18.88%), Basidiomycetes (16.63%), Ascomycetes (12.13%) Phycomycetes (7.01%) and Myxomycetes (1.32%).

The group Deuteromycetes as whole dominated the airspora presenting the highest percentage (43.11%) and with the large number of spore types i.e. eighteen to the total airspora. The most regularly occurring spore types which contributed in undesirable number were *Aspergillus, Alternaria, Cladosporium*. These spore dominated the aerobial population during the period of investigation.

Our observations are similar to the observations made by other workers. The present investigation will help to understand various components of air present inside the hospital. During entire period of investigation, meteorological parameters like daily temperature, rainfall and relative humidity were recorded.

REFERNCES

1. Tilak, ST, Air monitoring- Practical manual. 1987.
2. Tilak ST, Aerobiology Satyajeet prakashan, Pune. 1988.
3. Tilak ST, Airborne pollen and fungal spores, Vaijayanti prakashan, Aurangabad. 1989.
4. Ahire PP (Ph.D. Thesis), 1990 Aerospora of Nasik district

5. Ahire PP, Kadam VB, Aeromycological (Deuteromycetes) studies at Nashik, Maharashtra. 2008.

6. Singh A, Gangal SV, Singh AB, Airborne fungi in the hospital of metropolitan Delhi, Aerobiologia, 10, 11-21. 1994.

7. Kulsrestha A, Chauhan SVS, Aeromycoflora of some hospitals of Agra, Indian journal of aerobiology, Vol. 14 No. 1 and 2, pp 33-35.

Graph 1. : - Total % contribution of each spores group.