
SHORT COMMUNICATIONS

AIR BORNE FUNGAL SPORES IN HOSPITAL PREMISES AT KOLHAPUR

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Realisation of the role of air borne impurities in causing various allergies has revealed the importance of aerobiological studies. Amongst the different aero-allergens, the pollen grains and spores are seen to be responsible for a number of allergic diseases in human beings sensitive to these entities.

In the temperate countries notable work has been done, especially in the field of pollen allergy. In the tropical countries like India, though recently started, the pollen aspect has attracted a greater attention. Therefore, comparatively less information is available about the air borne fungal spores, particularly from this part of India, with the exception of a little data reported by Chaubal and Gadve (1979), Chaubal (1980), Chaubal and Kotmire (1982).

As fungal spores are one of the causes of allergic manifestations, information regarding the air borne fungal spores of a locality is helpful to the allergy clinicians while treating such allergic disorders. With this view, a detailed study of the aero-fungal spore of a hospital premises at Kolhapur was taken up, results of which are presented in this paper.

About 35 fungal spore types have been identified upto the generic level.

19 spore types could not be identified, which forms 0.83 % of the total spore types present, as they were broken or damaged otherwise. Monthly occurrence of these spores through the annual cycle, as well as, their annual percentage has been depicted in the Table I. In addition, 53 spore types were observed in traces. Such types have been noted in the Table II.

Thus, out of the total of about 88 spore types observed in the present investigation, 7 types form new additions to the so far reported aeromycoflora. Tilak (1982) has noted 33 ascospore types at Aurangabad, amongst which 26 are new records. However, usual 38 types have been reported from Pune (Patil and Vyawahare, 1981), 16 from Sagar (Pataria and Sahu, 1982), 26 from Lucknow (Madhwani, 1979), etc.

Cladosporium is observed to be the dominant type (Table I), which is as well reported to be at a number of places, as 31.21% at Aurangabad (Tilak, 1982), 62.85 % at Pune (Patil and Vyawahare, 1981), 60% at Lucknow (Wadhawani, 1979), 26.33% at Nagpur (Bajaj, 1978), 42.9% from Newzealand (DiMenna, 1955), 50% in London (Ainsworth, 1952) and similar dominance of *Cladosporium*

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TABLE I

ANNUAL INCIDENCE OF AIR BORNE FUNGAL SPORES IN THE HOSPITAL PREMISES AT KOLHAPUR DURING 1981.

Spore type	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total	Annual %
<i>Cladosporium</i>	30	29	31	38	29	24	30	38	54	42	37	39	411	18.0
<i>Nigrospora</i>	12	16	19	24	17	11	13	24	26	30	21	17	220	9.57
Smut spores	10	19	16	15	26	18	9	22	21	23	17	15	211	9.17
<i>Alternaria</i>	13	11	20	20	19	16	17	13	18	16	13	12	188	8.17
<i>Sclerospora</i>	12	8	14	18	9	6	5	12	21	19	16	19	159	6.91
<i>Curvularia</i>	10	7	15	5	3	4	7	9	13	22	14	10	119	5.17
<i>Coniothyrium</i>	10	10	9	8	5	2	6	8	14	12	9	11	96	4.17
<i>Helminthosporium</i>	9	7	4	3	6	8	4	9	11	13	8	6	87	3.8
<i>Pithomyces</i>	8	6	5	2	6	2	3	8	15	9	6	5	75	3.27
Uredospores	2	1	4	6	9	7	3	5	8	10	9	4	63	2.74
<i>Epicoccum</i>	7	3	2	4	5	2	4	4	9	8	5	3	56	2.43
<i>Torula</i>	6	3	5	6	3	1	2	6	4	7	4	2	49	2.13
<i>Bispora</i>	5	6	3	3	4	2	1	4	2	—	4	7	41	1.78
<i>Spegazzinia</i>	6	2	3	4	2	—	1	3	4	6	3	4	38	1.5
<i>Dendrographium</i>	3	4	1	2	4	—	2	3	2	5	4	2	32	1.39
<i>Bipolaris</i>	4	2	1	1	1	2	3	4	5	2	1	2	28	1.21
<i>Botryodiplodia</i>	1	2	1	1	2	—	2	4	5	5	3	2	28	1.21
<i>Diplodia</i>	2	1	1	1	3	4	3	5	2	3	1	1	27	1.17
<i>Tetraploa</i>	2	2	3	1	2	1	1	3	5	4	2	1	27	1.17
<i>Hysterographium</i>	3	2	3	1	2	1	1	4	3	2	3	1	26	1.13
<i>Sporormia</i>	3	1	1	2	2	1	2	1	3	4	2	2	24	1.05
<i>Leptosphaeria</i>	2	2	1	2	1	2	1	3	3	2	1	1	21	0.91
<i>Hysterium</i>	2	2	4	—	—	4	2	1	2	1	1	2	21	0.91
<i>Phoma</i>	2	1	6	—	—	—	—	—	4	4	5	3	19	0.83
<i>Cercospora</i>	3	2	1	1	2	1	1	2	3	—	1	2	19	0.83
<i>Capnodium</i>	2	1	—	—	1	3	2	1	2	3	2	2	19	0.83
<i>Xylaria</i>	2	1	—	1	2	1	1	3	4	1	2	1	19	0.83
<i>Chaetomium</i>	3	1	1	1	2	1	2	1	3	2	1	1	19	0.83
<i>Meliola</i>	4	—	2	1	1	2	1	1	2	1	1	1	18	0.73
<i>Beltrania</i>		3	1	1	—	—	—	—	4	3	3	1	18	0.73
<i>Puccinia</i> teleutospores	2	2	1	2	1	1	1	2	1	1	2	2	18	0.73
<i>Clasterosporium</i>	1	—	1	0	1	0	2	1	4	3	2	2	17	0.73
<i>Ravenalia</i>	1	2	1	3	2	1	1	1	2	1	1	1	17	0.73
<i>Pringsheimia</i>	1	2	1	1	—	—	—	—	1	3	2	3	14	0.60
<i>Dendryphiopsis</i>	1	—	—	1	2	—	2	1	1	3	1	2	14	0.60

has been reported for South Nigeria (Cammack, 1955), Montreal (Pady and Kapica, 1956), Nottingham (Pawsey and Heath, 1964) and Aurangabad (Tilak and Kulkarni, 1972).

Alternaria is reported to be dominant at Sagar (Pateria and Sahu, 1982), Delhi (Sandhu, *et al.*, 1964). Jaipur, (Gupta *et al.*, 1960), etc. Whereas, in the present investigation this type stands 4th (Table I). Rajan *et al.*, (1952) have noted *Aspergilli* as most common, in Kanpur. While Gravesen (1972, 1978)

has noted *Mucor* and *Rhizopus* sp. to be the dominating ones followed by *Penicillium*, etc. But in this study, these types are observed to be present to the extent of less than 0.5% each (Table II).

In this connection, Gravesen (1979) in a review article has emphasised the necessity of identification of fungal types from the environment under which patients live, as this may form a guide line for elimination treatment.

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TABLE II

INCIDENCE OF FUNGAL SPORES LESS THAN 0.5% IN THE HOSPITAL PREMISES AT KOLHAPUR, DURING 1981.

Fungal spore type		
<i>Penicillium</i>	<i>Fusarium</i>	<i>Aspergillus</i>
<i>Botryotrichum</i>	<i>Catynula</i>	<i>Tetraploa</i>
<i>Artrobotryum</i>	<i>Diplococcium</i>	<i>Patellaria</i>
<i>Teichospora</i>	<i>Dichomera</i>	<i>Diplodia</i>
<i>Hendersonia</i>	<i>Wardomyces</i>	<i>Pleospora</i>
<i>Deightonella</i>	<i>Lophiostoma</i>	<i>Hypoxylen</i>
<i>Bacteridium</i>	<i>Pseudotorula</i>	<i>Monilia</i>
<i>Sclerotrichum</i>	<i>Cucurbitaria</i>	<i>Septoria</i>
<i>Dictyarthrinium</i>	<i>Parodiella</i>	<i>Stigmella</i>
<i>Dactylosporium</i>	<i>Hirudinaria</i>	<i>Asterina</i>
<i>Phialophora</i>	<i>Pseudobotrytis</i>	<i>Ascotricha</i>
<i>Sirodesmium</i>	<i>Botryosporium</i>	<i>Coemisia</i>
<i>Canposporium</i>	<i>Basidiobotrys</i>	<i>Othia</i>
<i>Haplosporella</i>	<i>Cephalomyces</i>	<i>Papularia</i>
<i>Brachysporium</i>	<i>Periconiella</i>	<i>Periconia</i>
<i>Nidulosphaeria</i>	<i>Sclerotrichum</i>	<i>Sclerotium</i>
<i>Staphylotrichum</i>	<i>Monochaetia</i>	<i>Sordaria</i>
<i>Stachybotrys</i>	<i>Valsaria</i>	

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