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tion of the indoor environment with bacteria and fungi in Tertiary Health Care

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The micro flora of any habitat varies with host type, environmental condition and ong them. Hospitals, Health care centres are most sorted places for they give life or iate pain. Good ventilation refreshes life in the health care centre. The sole reason talization and medical procedures is to speed up the process of healing but at times us process unintentionally introduces several pathogenic microorganisms into the iate nosocomial infections and they cause serious medical problems particularly in e units.
investigation of the air quality and the quantity of airborne microbes was conducted and a government tertiary health care centre of Davanagere in the month of 011 to assess the level of air borne pathogens. Using a Merk microbial air sampler, samples were collected in the morning and in the evening from the different Operation theatres, Medical intensive care unit (MICU), Pediatric Intensive Care leonatal Intensive Care Unit (NICU) and Cardiac Care Unit (CCU) of the PRIVATE ent tertiary health care centre. The microbial air sampler was operated at an air 00 lts/min. The total volume of air that was aspirated onto the agar plate was 50 used for the study of fungi was Sabaroud agar (SDA) Aspergillus sps, Curvularia a sps, Penicillium sps, Rhizopus sps, Nigrospora sps, Fusarium sps were found either of the tertiary health care centre. However Asergillus sps was dominant in nt hospital, Alternaria sps and Curvularia sps were dominant in the private tertiary ntre. The concentration level of airborne bacteria was measured in a private and tertiary health care centre. For the bacteria quantitative enumeration was done Casein Digest Agar [SCDA] and selective media like Escherichia coli & coli form Urinary tract infection agar [UTI] were used in qualitative enumeration.
cted pathogens like Escherichia coli, Klebsialla pneumoniae, Pseudomonas almonella enteritidis, Staphylococcus aureus, Proteus mirabilis, Entirococcus found in common in either of the tertiary health care centre. The infrastructure, gs, closed areas play a pivotal role in the spread of microorganisms. Variation in ersonnel number and activities leads to the particle concentration fluctuations. sols of the infected person which contain bacteria, viruses, yeasts, molds and may also add up to the onslaught of infections. With reference to fungi and um numbers of organisms were isolated from emergency ward and general ward health care centre and were least in the operation theatres.

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AM.2
Airborne grass pollen and ambient Phl p 5 aeroallergen in Évora (South Portugal), 2009-2011

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Objectives: Grass pollen is an important source of aeroallergens worldwide and consequently a major cause of pollinosis. Phl p 5 is one of the main allergen widely distributed among the Poaceae family. It has been assumed that the pollen count is a representative parameter for allergen exposure, however, variability in the allergen content of pollen has been demonstrated for other taxa and the presence of allergen in submicronic particles remains controversial. Thus, allergen loadin the air remains elusive and its distribution among bioaerossol particles is still unclear. The aim of this work were: i) to estimate the correlation between daily airborne grass pollen count pollen and the aeroallergen in ambient air; ii) to evaluate the annual variation of pollen potency in a Mediterranean environment.
Methods: Aeroallergens in ambient air were collected between 2009-2011 using a ChemVol high-volume cascade impactor. The air flow was adjusted to 800 L/min and was kept constant with a rotameter controlled high-volume pump (Digitel DHM-60). Prewashed polyurethane foam served as impacting substrate. Particulate matter (PM) in ambient air was fractioned into PM>10μm (XL) and 10μm>PM>2.5μm (M). Phl p 5 was quantified by ELISA method. Airborne Poaceae pollen was simultaneously monitored with a Burkard Seven-Day Recording Volumetric SporeTrap®. Both samplers were placed side-by-side, the air inlet at the same level.
Results: Between 2009 and 2011, ≈90% of the airborne allergen was found in the PM > 10μm stage. The allergen and pollen profiles overlapped in every season but were also found. Airborne pollen counts varied (5643, 17107 and 22649 grains/m^3 in 2009, 2010 and 2011) and so did the aeroallergen load (11497, 25849 and 34543pg/m^3). The Phl p 5 mean release per pollen grain was 2.0pg, 1.7pg and 1.3pg, respectively. Yearly Phl p 5/pollen was negatively correlated with yearly pollen sum.
Conclusions: These results show that Phl p 5 is preferentially associated with pollen grains, although a small percentage may also be found in smaller particle sizes. It was recorded a yearly variation in airborne pollen and Phl p 5. The highest potency pollen was recorded in 2009 but the highest load in aeroallergen was registered in 2011. In conclusion, aeroallergen quantification together with airborne pollen counts, may contribute to a better understanding of the exposure levels to airborne pollen allergens.

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llen allergens in the air

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en grains contribute to the development of the vegetation by ensuring Oxygen playing a vital role in food. However, 10 to 20% of the population suffers initis, conjunctivitis or asthma, caused by pollens. The increase of this kind of uld have doubled in 10 years, justifies the control of air quality.
hip, especially designed to detect pollen allergens has been developed. In used on tree (birch and olive tree) and grass (timothy) pollens which are allergenic proteins and glycoproteins. The different allergens were detected rface Plasmon Resonance imaging (SPRi). Owing to this optical technique, etween pollen allergens and the allergen-specific antibody were monitored. en the antibody and the allergen was calculated from the kinetic curves. The llergen in one pollen grain was determined from a calibration curve. This on the place and the time where the pollen was collected but also on the For the birch pollen allergen the results were compared to those obtained s et al. [1, 2]. We can confirm that ELISA and SPRi techniques give globally or now, no device is able to estimate, in real time and without labeling the amount of allergen collected in a particular environment. Existing devices imetric or fluorescence detection and need labeling antibodies as ELISA or y. Thus, there is a great interest in a device that would be able to perform this nt online.
demonstrate here, the interest of the SPRi technology, which is a multiplexed e for the detection of allergens simultaneously from pollen grains. The pollen quantity of each studied species in the air will quickly notify allergic ence of specific pollens in a particular area and correlate the pollen exposure

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he A, Weichenmeier I, Schober W, Klaus S, Traidl-Hoffmann C, Menzel A, r U, Behrendt H. Int. Arch Allergy Immunol 2008; 145: 122-130.

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AM.3
Characterization of major & minor allergens of three airborne Aspergillus species and heterogeneity of IgE response of allergic patients to them

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Objectives: Airborne Aspergillus species are important inhalant allergens. Current diagnostic modalities employ crude allergen extracts which only indicate the source, to which the patient has been sensitized. However, clinical sensitivity of a patient depends on the number and type of allergens against which they have developed IgE antibodies. We report a study on the identification of major/minor allergens and heterogeneity of patients' IgE response to three Aspergillus species- A fumigatus, A flavus and A niger.
Methods: Skin prick tests (SPT) were performed on 300 patients of bronchial asthma/allergic rhinitis and 20 healthy volunteers with the three Aspergillus extracts. Allergen specific IgE in patients' sera was estimated by enzyme allergosorbent test (EAST). EAST binding and EAST inhibition (with homologous extract) were performed using individual sera to study heterogeneity of patients' IgE response to various allergenic proteins of Aspergillus extracts. Immunoblots were performed with multiple sera (n=12-21) to confirm this heterogeneity and identify major/ minor allergenic proteins.
Results: Positive skin responses in patients were: A fumigatus-19.7%, A flavus-17% and A niger-14.7%. Corresponding EAST positivity was 66.7%, 69.2% and 68.7%. In immunoblots, 5-12 allergenic proteins were identified, major allergens being: A fumigatus- 90, 83, 34, 20 kd; A flavus- 13.3, 34, 37 kd and A niger- 49, 55.4, 81.5 kd. Slopes and positions of binding and inhibition lines in each Aspergillus EAST using multiple sera individually varied from patient to patient, suggesting heterogeneity of patients' IgE response to various allergenic proteins of these extracts. Results of immunoblots gave definitive evidence for this observation as different patients' sera demonstrated distinct allergen binding IgE profiles with each Aspergillus extract. Further, analysis of IgE-binding protein profiles of A niger and A flavus hypersensitive patients revealed that two patients in each set were exclusively hypersensitive to respective minor allergens of these extracts. Thus, allergens which were designated as 'minor' on the basis of study population were the 'major' ones in individual cases.
Conclusions: Allergenic potential of A fumigatus was the highest followed by A fumigatus, A flavus and A niger. Major/minor allergenic proteins varied from species to species. Patients demonstrated heterogeneity of their IgE response to these allergenic proteins in various permutation and combinations. These findings emphasize the importance of component resolved diagnosis i.e. identification of allergen binding IgE profile of an individual. This patient-tailored diagnosis will be helpful in identifying actual disease eliciting molecules in an individual and may improve allergen-specific immunotherapy.