852 LOCAL Allergic Rhinitis: Entopy or Spontaneous Response?

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RATIONALE: The existence of a "local" allergic rhintis was proosed on the basis of the detection of nasal IgE in the absence of a systemic sensitization. Neverhteless, the significance of this phenomenon remains partially unclear. We assessed the presence of mucosal nasal IgE in patients with ascertained allergic rhinitis, nonallergic rhinitis with inflammation and in healthy controls.

METHODS: Conseutive patients with a well ascertained rhinologic diagnosis (clinical history, skin prick test, specific IgE assay, nasal endoscopy, nasal cytology) underwent an immunoenzymatic measurement of specific IgE to grass, cypress, parietaria and olive in nasal scrapings.

RESULTS: Fifteen patients with allergic rhinitis, 12 with nonallergic cellular rhinitis and 14 healthy subjects were studied. The patients with allergic and nonallergic rhinitis had significantly more nasal symptoms versus the control subjects. A systemic sensitizatition (assessed by skin test and CAP RAST) was obviously more frequent in allergic rhinitis. Nasal IgE could be found equally present in the trhee groups (86,7%, 33,3%, and 50% positive, respectively), even more frequently in the controls than in nonallergic rhinitis patients. No difference among the single allergens was detected. Among the 26 nonallergic patients (cellular rhinitis+controls) nasal IgE were positive in 11.

CONCLUSIONS: According to the results, the presence of nasal IgE against allergens seems to be a non-specific phenomenon, since they are present also in non allergic rhinitis and in healthy subjects. It can be hypothesizzed that the mucosal IgE production is part of a spontaneous immune response.

853 Reduction of Substance-P Mediated Neuronal Hyper-Reactivity By Dymista™ (Azelastine & Fluticasone) Correlates with Decreased Cough-Frequency in Non-Allergic Rhinitis

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RATIONALE: Nonallergic triggers have been demonstrated to activate Ca2+ channels on sensory nerve endings resulting in release of neuropeptides, e.g. Substance P (SP) resulting in marked vasodilation and vascular permeability leading to nasal congestion and rhinorrhea. Clinical evidence supports the benefits of fluticasone and Azelastine in NAR. The purpose of this study was to compare the effect of Dymista™ (Azelastine+Fluticasone) to placebo on reducing NP levels in nasal lavage fluid (NLF) and improving clinical symptoms before and after exposure to cold dry air (CDA) in an environmental exposure chamber.

METHODS: In a double-blinded, placebo-controlled study, 30 NAR patients randomized to Dymista (n=20) or Placebo (n=10) treatment groups were initially (Pre-Rx visit) exposed to CDA (~14°C, ×1hr.) and again two-weeks post treatment (Post-Rx visit); NLFs were collected pre- and post-CDA exposure at each visit. Enzyme immunoassays were used to measure SP levels in NLF. Association of CDA-induced cough-counts with log-normalized SP ratio (post/pre-exposure) was determined by correlational and linear regression analysis.

RESULTS: Log(SP)-ratio differed significantly between Dymista-Post-Rx vs. Dymista-Pre-Rx samples (est.= -0.739, p=0.00004) and Dymista-Post-Rx vs. Placebo-Post-Rx (est.=-0.748, p=0.00051). Within the Dymista-group CDA-induced cough-counts post-Rx visit were significantly decreased (p=0.0003) and correlated with a reduction in the Log(SP)-ratio (Spearman rho=0.33, p=0.03).

CONCLUSIONS: Dymista may have a significant clinical effect in NAR by reduction in SP secretion. Larger clinical studies are warranted to demonstrate the clinical effect of Dymista in the NAR treatment.

854 Comparison of Commercial Cat and Dog Extracts in Skin Prick Testing and Protein Electrophoresis

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RATIONALE: Many different cat and dog allergens are available commercially for testing and treatment. We aimed to study differences in skin prick testing (SPT) reactivity in a pool of patients to two cat extracts [Cat Hair 10,000 BAU/mL (Greer Labs) and AP Cat Pelt 10,000 BAU/mL (Hollister-Stier)] and two dog extracts [AP Dog Hair-Dander (Hollister-Stier) and Dog Hair & Epithelia (Allergy Labs)]. We hypothesized that similarities or differences in reactivity could be explained by a comparison of extract protein profiles which were elucidated using electrophoresis.

METHODS: Data was collected from skin testing results of 260 consecutive patients tested to both cat extracts and 334 consecutive patients tested to both dog extracts since December 2014. A positive skin test result was defined as 3 mm greater than the skin test response to the negative saline control. Electrophoresis was then performed on a number of commercially available cat and dog extracts.

RESULTS: We found that only 60% of patients with a positive SPT to cat had a positive skin test to both commercial cat extracts and only 51% of SPT positive dog patients were positive to both dog extracts. Conversely, cat and dog allergic patients were skin test positive to only one of two extracts in 40% and 49% of cases, respectively. Electrophoresis illustrated major differences in protein composition for cat and dog extracts among products from different manufacturers.

CONCLUSIONS: Variable protein composition among commercial cat and dog extracts may explain inconsistencies in skin prick testing when using extracts from different manufacturers.