

- 997 Nasal Epithelial and Leukocyte Patterns in Allergic Disease: a Study of Mucosal Cytology Specimens Obtained by 2 Different Methods.** RY Lin MD, E Clarin MD, M Lee MD, and H Menikoff MD, New York, NY.
- In order to evaluate the utility of nasal cytology examination in atopic disorders, nasal specimens were obtained from 50 adult allergy clinic patients attending an urban hospital clinic. A plastic curette (Rhinoprobe™) was used in one nostril while a cotton swab was used in the other. The Rhinoprobe™ method resulted in more epithelial cells and permitted a greater number of high power fields to be examined for differential leukocyte counts ( $p=0.001$ ). We evaluated the eosinophil percentage to distinguish rhinitis associated with the presence of aeroallergen specific IgE (allergic rhinitis) from rhinitis without specific IgE (non-allergic rhinitis). A significantly greater area under the ROC curve ( $p=0.018$ ) was observed using the Rhinoprobe™ specimen compared to the swab specimen at positive thresholds of 3-5%. Using stepwise discriminant analysis, the number of goblet cell clusters and percent goblet cells in the epithelium showed significant multivariate effects which distinguished allergic rhinitis from non-allergic rhinitis. This multivariate effect was also observed in discriminant analysis comparing subjects with either atopic asthma or allergic rhinitis compared to other subjects without aeroallergen specific IgE. The percent eosinophils did not contribute to these discriminant models. These data demonstrate the utility of nasal cytology evaluation using mucosal scrapings, and they suggest that examining epithelial changes may contribute in identifying atopic respiratory disease.

- 999 Prophylactic use of Topical Triamcinolone Acetonide Nasal Inhaler in Patients with Seasonal Allergic Rhinitis.** W Storms MD; D Bernstein MD; C LaForce MD; D Pearlman MD; D Proud PhD; A Kagev-Sobotka PhD; J Lim MD; and P Creticos MD, Colorado Springs, CO; Cincinnati, OH; Raleigh, NC; Englewood, CO; Collegeville, PA, and Baltimore, MD.
- 173 patients aged 12 to 72 years with symptoms of allergic rhinitis, positive to ragweed and negative to dust mites and mold by skin test were entered into a double-blind, randomized, 6-week study comparing triamcinolone acetonide (TAA, Nasacort®) nasal inhaler 220 µg once daily to placebo (PL) inhaler. Patients with perennial rhinitis symptoms or those symptomatic on randomization day were excluded. Treatment was started prophylactically at least 1 week before significant ragweed pollen was airborne. The following efficacy variables were analyzed for 107 evaluable patients: placebo-adjusted mean nasal index score (PAS); unadjusted nasal index score (NS); individual rhinitis scores; and physician and patient global evaluations. TAA was significantly more effective than PL in suppressing symptoms: PAS ( $p<0.001$ ); NS ( $p<0.001$ ); and individual rhinitis scores ( $p<0.001$ ). Eye symptoms were no different.
- Physician and patient global evaluations showed that TAA treated patients reported more suppression of symptoms than did PL treated patients ( $p<0.001$ ). Nasal lavage obtained to assess drug effects on inflammatory mediators demonstrated a significant attenuation of albumin ( $p<0.02$ ) but no effect on histamine ( $p=.2$ ) or tryptase ( $p=.27$ ) as compared to PL. Thus, TAA was well tolerated and effective in preventing rhinitis symptoms when given prophylactically to patients with seasonal, ragweed induced allergic rhinitis.

- 998 The Interaction of Lysozyme with Proteoglycans; Implications for its Antibacterial Activity and its Allergenic Potential.** AS Josephson MD, H Drew MS, Brooklyn, NY
- Lysozyme is a positively charged protein with antimicrobial activity. It is a major component of secretions such as tears and is found in the lysosomes of phagocytic cells.
- We developed a technique wherein lysozyme is electrophoresed through agarose at various pH values. The gel is then incubated with another gel containing *M. lysodeikticus*. The resulting clearing demonstrates the electrophoretic migratory position of lysozyme.
- Isolated human lysozyme, egg white lysozyme and whole human tears showed clearing of the bacterial suspension in a "rocket" directed toward the cathode at pH 8.0 and pH 5.0. Extracts of human cartilage showed lytic activity, but with migration towards the anode. The addition of glycosaminoglycans to human lysozyme altered its migratory property such that it became anodal rather than cathodal.
- The charge lysozyme carries is thus not intrinsic to its antibacterial activity. As mucus is rich in glycosaminoglycans and as lysozyme and mucus coexist in the upper respiratory tract, the interaction of these two highly charged materials may serve to retain and disburse the antibacterial endogenous lysozyme throughout the upper respiratory tract. Lysozyme from an exogenous source may be concentrated and retained in the upper respiratory tract, thereby adding to its allergenic potential.

- 1000 Triamcinolone acetonide nasal spray (T) vs loratadine tablets (L) vs T+L in patients with spring pollen allergic rhinoconjunctivitis (RC).** M Gold MD, P Small MD, P Patel MD, PA Houle MD, W Yang MD, J Schulz MD, W Arkininstall MD, A Lavoie MD, J Hébert MD, M Drouin MD, D Lee MD, R Phillips Ph.D, J Spénard Ph.D, Multicenter (8) study, Canada.
- This study compared the efficacy of T, L, and T+L. Men and women, with positive skin test for local spring allergens, aged 18 to 70 years, with a history of RC for  $\geq 2$  years, and not using any drugs interfering with the evaluation received T ( $n=78$ ) 110 µg in each nostril, or L ( $n=72$ ) 10 mg p.o., or T+L ( $n=79$ ), QD in the morning, in a double-blind, parallel groups, 21-day study. They were included after cumulating a RC index (RCI)  $\geq 30$  for ocular and at least 2 other symptoms among rhinorrhea, nasal congestion (NC), sneezing, or itching, over 4 days out of 5. They then rated their RCI each morning. Mean (SEM) RCI at baseline were 9.47 (.20), 9.79 (.23), and 9.24 (.19) for T, L, and T+L respectively ( $p=.13$ ). Mean (SEM) daily reductions in RCI were compared by ANOVA:
- |               | T          | L          | T+L        | p    |
|---------------|------------|------------|------------|------|
| Days 1 to 7   | 3.23 (.29) | 3.07 (.23) | 3.55 (.28) | 0.52 |
| Days 8 to 14  | 5.08 (.38) | 4.94 (.32) | 5.32 (.33) | 0.70 |
| Days 15 to 21 | 5.83 (.36) | 5.05 (.37) | 5.69 (.39) | 0.16 |
| Days 1 to 21  | 4.70 (.32) | 4.34 (.27) | 4.84 (.31) | 0.61 |
- Only NC showed a statistically significant difference between treatments. Mean (SEM) 21-day reductions were 0.91 (.08), 0.68 (.06) and 0.89 (.08) for T, L, and T+L respectively ( $p=.05$ ,  $df=2$ ). We conclude that T, L, and T+L efficacy are not different in reducing the RCI in seasonal RC. T or T+L seems better for patients with NC. The safety profile, now being analysed, is needed to complete the overall assessment of the relative therapeutic benefits.