Racial Differences in Allergen Sensitivity

To the Editor:

We read with interest the article in CHEST by Celedón et al (January 2004) on ethnicity and skin test reactivity to aeroallergens. The authors found that African Americans were more likely to have skin test reactions to outdoor allergens. We note that upward of 65% of the nonwhite children in the study of Celedón et al resided in urban areas, compared to 9% of the white children.

Readers may be interested in a similar analysis that we conducted among 569 middle-class African-American and white children residing in a geographically defined suburban area of Detroit, MI. These children, who were between the ages of 6 and 8 years, were invited to undergo a clinical evaluation, including the measurement of specific IgE levels and the performance of skin-prick tests. The skin-prick tests were performed by using commercial extracts of Dermatophagoides farinae, Dermatophagoides pteronyssinus, cat, dog, Alternaria, short ragweed, and bluegrass, in addition to saline solution and histamine solution (1 mg/mL), which acted as positive and negative controls, respectively. A positive skin test result was defined as one with a sum of perpendicular wheal diameters of ≥4 mm with a larger surrounding flare. Allergen-specific serum IgE concentrations were measured using the commercially available assays to the allergens listed above, along with a sample of children who also were tested for cockroach. A specific IgE concentration of >0.35 IU/mL was considered to be evidence of a detectable antibody.

Our results showed that African-American children were more likely to be allergic to ragweed and bluegrass according to serum IgE concentrations, and to bluegrass according to skin-prick test (Table 1). These were the only statistically significant differences observed by race. Thus, our earlier findings in nonurban children corroborate those of Celedón et al. For more information, please see the May 2000 issue of CHEST.

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References


Table 1—Allergen Sensitivity by Race*  

<table>
<thead>
<tr>
<th>Allergen</th>
<th>Serum IgE Levels &gt; 0.35</th>
<th>Skin Test Reactive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AA, %</td>
<td>White, %</td>
</tr>
<tr>
<td>D. farinae</td>
<td>21.0</td>
<td>13.4</td>
</tr>
<tr>
<td>D. pteronyssinus</td>
<td>16.4</td>
<td>11.6</td>
</tr>
<tr>
<td>Cat</td>
<td>9.5</td>
<td>10.1</td>
</tr>
<tr>
<td>Dog</td>
<td>4.8</td>
<td>5.9</td>
</tr>
<tr>
<td>Ragweed</td>
<td>23.0</td>
<td>11.8</td>
</tr>
<tr>
<td>Bluegrass</td>
<td>23.0</td>
<td>12.3</td>
</tr>
<tr>
<td>Alternaria</td>
<td>14.8</td>
<td>13.5</td>
</tr>
<tr>
<td>Cockroach</td>
<td>0.0</td>
<td>2.6</td>
</tr>
</tbody>
</table>

*AA = African American; ND = not done.
We would like to point out that the results of our recent study and those of the study conducted by Joseph and colleagues are not comparable. Whereas our study included only children with asthma (791 children), their study included children with and without asthma. In the study conducted by Joseph et al., there was no difference in serum total levels of IgE between African-American children with asthma (children with asthma) and European-American children with asthma (children without asthma). Thus, it is not clear whether the reported association between African-American ethnicity and sensitization to two outdoor allergens was present in children with or without asthma. In their study, African-American children without asthma had a higher total serum IgE level than did European-American children without asthma. For the analysis of the relation between sensitization to specific allergens and ethnicity, Joseph et al. did not present the results of an analysis that had been stratified by asthma status. Thus, it is not clear whether the reported association between African-American ethnicity and sensitization to two outdoor allergens was present in children with or without asthma. In the study conducted by Joseph et al., the analysis of the relation between ethnicity and allergen sensitization was not adjusted for potential confounders.

What the findings of both our study and those of the study conducted by Dr. Joseph and colleagues suggest is that allergy skin testing should be considered more often in African-American children with symptoms that are suggestive of allergic diseases such as asthma. Finally, allergen sensitization in minority populations is deserving of further study, as it may provide important clues to asthma health disparities.

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Conventional vs Endobronchial Ultrasound-Guided Transbronchial Needle Aspiration of the Mediastinum

To the Editor:

We read with great interest the article by Herth et al. (January 2004), which reports the results of a randomized trial comparing conventional vs endobronchial ultrasound (EBUS)-guided transbronchial needle aspiration (TBNA) of mediastinal lymph nodes (LN). This is a very intriguing study, in which the authors performed TBNA during flexible or rigid bronchoscopy, and separately randomized and analyzed the results of the TBNA procedures obtained from different LN stations. In a first group, they included exclusively the subcarinal nodes, since they are easily accessible by any method. In a second group, they included all the TBNA performed in the following LN stations according to the American Thoracic Society classification: 2 (right and left); 3, 4 (right or left); and 5. The conclusions and the comments of this study contain some very important issues for bronchoscopists who routinely perform TBNA, and therefore deserve a few comments.

The authors conclude that “EBUS guidance significantly increases the yield of TBNA in all lymph node stations except in the subcarinal one.” However, the data as proposed in Table 2 of their study show that similar diagnostic yields were obtained by both conventional and EBUS-guided TBNA also in the lower paratracheal area (right, 4 left). By considering these data, it looks like blind TBNA procedures proved as effective as ultrasound-guided ones in those stations (right, 4 left, 7), among those accessible to TBNA, where the majority of metastasis from non-small cell lung cancer (NSCLC) occurs. This result is not surprising if one takes into account the fact that the above-mentioned LN areas (mainly 4R and 7) have been associated with very high (approximately 70%) diagnostic yields of conventional TBNA in several comprehensive studies in the settings of both malignant and benign diseases. A definite advantage was associated with ultrasound guidance only for TBNA performed in LN stations (2, 3) less frequently involved by the metastatic spread of NSCLC, which is the most common indication to TBNA in clinical practice.

The article also shows that 21 of 50 TBNA procedures in the non-subcarinal group were performed in the aortopulmonary window (APW), also called the subaortic station (station 5), which to the best of our knowledge is not accessible to TBNA. According to the American Thoracic Society LN map definition, the APW nodes . . . are lateral to the ligamentum arteriosum or the aorta or the left pulmonary artery . . . and are therefore not in contact with the airways. In a recent review on invasive mediastinal staging of NSCLC, it is stated that the possible ways to access the APW nodes are the following: anterior mediastinotomy (also known as the Chamberlain procedure), extended cervical mediastinoscopy, thoracoscopy, and transesophageal endoscopic ultrasound with fine-needle aspiration. Is it possible that these 21 TBNA procedures were performed in the left paratracheal area?

Another important aspect that is dealt with by Herth and colleagues is concerned with the significance of a TBNA aspirate yielding lymphocytes only, a finding basically meaning that the LN has been likely punctured. Interestingly, they observed that no patients with lymphocytes only on TBNA had a more specific diagnosis after subsequent surgical biopsy. We have proposed, albeit arbitrarily, that at least 30% of cellularity be composed of lymphocytes in order to consider adequate a TBNA cytology specimen. By using this quantitative cut-off value, two of nine adequate negative TBNA cytology specimens (23%) were subsequently shown to be false-negative at mediastinoscopy in a study on