Response

To the Editor:

We appreciate the interest of Dr Barbarito and colleagues in our recent study comparing the total face mask (TFM) with oronasal mask (ONM) for the treatment of acute respiratory failure in patients receiving noninvasive ventilation (NIV). Our primary (mask comfort and time to apply) and secondary (vital signs and gas exchange parameters over time) end points showed no differences. In the interest of conserving space, we did not show the data for the time course of Paco₂ in the two groups. Figure 1 shows that data after purging of early discontinuers (ie, those who discontinued NIV while still requiring ventilatory assistance) to provide a better idea of evolution over time.

Dr Barbarito and colleagues also requested information on the total duration of mechanical ventilation. As they mention, the median duration of NIV use was longer with the ONM than the TFM, excluding the duration of use after switching to the alternative mask. However, when that duration is included, the median duration of NIV tended to be shorter in the ONM group (23 h; interquartile range, 4.6-51.3; n = 18) than in the TFM group (56.9 h; interquartile range, 15.7-98.4; n = 12). The reason for these disparities is that more patients discontinued early with a shorter duration of use in the TFM than the ONM group (n = 16 vs 12, 0.7 vs 3.7 h), and patients using ONM were more apt to switch to the alternative mask (n = 8 of 16 patients using TFM vs 0 of 12 patients using ONM, P < .05).

This disparity in willingness to switch between the two groups is remarkable, and Barbarito and colleagues ask for more detail on the reasons. Of the 12 patients using ONM who discontinued NIV early, five required prompt intubation. Two other patients had do-not-intubate orders and died while using the mask. The other five patients were offered the TFM but declined. One was claustrophobic and refused any other masks; the other four were frightened by the large appearance of the TFM and declined. One of the patients using ONM compared with none of the patients using TNM had previously used NIV at home. As mentioned in the article, respiratory therapists were instructed to apply every effort to encourage patients to use either mask type. However, since blinding was not possible, we cannot exclude the possibility that clinician bias played a role in this disparity in willingness to switch.

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References

BAL Fluid Surfactant Protein C Level Is Related to Parenchymal Lung Disease in Children With Sarcoidosis

To the Editor:

Surfactant protein C (SP-C) is a hydrophobic protein exclusively synthesized by type 2 alveolar epithelial cells from a 197 amino acid propeptide form (proSP-C) after a complex multistep posttranscriptional processing. Sarcoidosis is a systemic disease of unknown cause characterized by noncaseating epithelioid granulomas that may disturb the synthesis of SP-C. We aimed to assess the relationship between alveolar SP-C expression and parenchymal lung disease in children with pulmonary sarcoidosis.

Eighteen children with histologic proven sarcoidosis (white, n = 8; black African, n = 5; French Antilles, n = 5) were evaluated for parenchymal lung disease by high-resolution CT scans and respiratory function tests, including measurements of FVC and dynamic lung compliance (Cl, dyn). Patients were divided, after radiographic staging, in two groups based on the absence of pulmonary infiltrations (API group; stages 0 and I, nine patients) or the presence of pulmonary infiltrations (PI group; stages II and III, nine patients). All patients underwent fiberoptic bronchoscopy with BAL before treatment onset for 17 of the 18 patients. BAL fluid (BALF) proSP-C and mature SP-C expression levels were assessed by Western blot using proSP-C and mature SP-C antibodies (Seven Hills Bioreagents; Cincinnati, Ohio) as previously...
Data are expressed as mean ± SEM. API = absence of pulmonary infiltration; AU = arbitrary unit; BALF = BAL fluid; Cl dyn = dynamic compliance; PI = presence of pulmonary infiltration; proSP-C = surfactant protein propeptide form; SP-C = surfactant protein; VC = vital capacity. *P values > .05 are not shown.

### Table 1—Functional and BALF Features in Patients With or Without Parenchymal Lung Disease

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Sarcoïdosis API Group (n = 9)</th>
<th>Sarcoïdosis PI Group (n = 9)</th>
<th>P Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex, male (female)</td>
<td>7 (2)</td>
<td>7 (2)</td>
<td>...</td>
</tr>
<tr>
<td>Mean age at BAL, y</td>
<td>12 ± 1</td>
<td>12 ± 1</td>
<td>...</td>
</tr>
<tr>
<td>Lung functions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VC, % predicted</td>
<td>89 ± 5</td>
<td>70 ± 9</td>
<td>...</td>
</tr>
<tr>
<td>Cl dyn, % predicted</td>
<td>69 ± 6</td>
<td>45 ± 7</td>
<td>.03</td>
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<tr>
<td>BALF parameters</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Total cell, × 10^9/mL</td>
<td>2.1 ± 0.2</td>
<td>3.1 ± 0.4</td>
<td>...</td>
</tr>
<tr>
<td>Macrophages, %</td>
<td>65 ± 7</td>
<td>47 ± 6</td>
<td>...</td>
</tr>
<tr>
<td>Lymphocytes, %</td>
<td>27 ± 5</td>
<td>42 ± 7</td>
<td>...</td>
</tr>
<tr>
<td>Neutrophils, %</td>
<td>2.0 ± 0.8</td>
<td>1.0 ± 0.4</td>
<td>...</td>
</tr>
<tr>
<td>ProSP-C, AU</td>
<td>8 ± 5</td>
<td>26 ± 13</td>
<td>.009</td>
</tr>
<tr>
<td>Mature SP-C, AU</td>
<td>18 ± 4</td>
<td>5 ± 1</td>
<td>.03</td>
</tr>
<tr>
<td>ProSP-C/mature SP-C ratio</td>
<td>0.7 ± 0.2</td>
<td>9.3 ± 3.2</td>
<td>.0009</td>
</tr>
</tbody>
</table>

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### References