Table 1—Comparative Evaluation Between Groups With and Without Desaturation*

<table>
<thead>
<tr>
<th></th>
<th>Group With Desaturation</th>
<th>Group Without Desaturation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, yr</td>
<td>65.77±8.57</td>
<td>66.07±9.56</td>
</tr>
<tr>
<td>Pulse oxygen saturation,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At rest</td>
<td>96.46±2.06</td>
<td>97.40±1.15</td>
</tr>
<tr>
<td>Nadir</td>
<td>86.25±3.49</td>
<td>95.07±1.69</td>
</tr>
<tr>
<td>Hugh-Jones score</td>
<td>1.34±0.81</td>
<td>1.30±0.64</td>
</tr>
</tbody>
</table>

*pValues expressed as mean±SD.

†p<0.05 vs group without desaturation.

These results suggest that the walking test may be valuable in screening for mild pulmonary disorders associated with oxygen desaturation during exercise.

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Additional Experiences With Corticosteroids in COPD

To the Editor:

We were interested to read the article entitled “Adverse Effects of Corticosteroid Therapy for COPD” by Drs. McEvoy and Niewoehner.1 As an addition to their review, we would like to report our experience with four COPD patients who developed an “opportunistic” lung infection probably due to the use of inhaled corticosteroids. To our knowledge this kind of side effect has not previously been published in the English literature, although our findings were published in the Dutch medical literature.2 This probably explains the authors’ oversight.

For several years our four patients (three men and one woman; ages 64 to 69) had been treated with budesonide (Turbuhaler; Astra; Zoetermeer, The Netherlands; dosage range 2 bid 500 µg to 2 bid 400 µg; treatment period: 2 to 3 years) for moderate-severe COPD. They had not received any systemic corticosteroid treatment for at least 2 years preceding the presenting illness. Two patients had developed a nodule in their right upper lobe due to a *Mycobacterium malmoense* infection. Their diagnosis was eventually established after operative resection. Histologic examination revealed a granulomatous disease, and tissue cultures a *Mycobacterium malmoense*. The other two patients had developed an invasive aspergillosis. The first had a nodule in the right upper lobe. Histologic confirmation was gained after thoracotomy and excision of the lesion. The second patient had developed a discrete infiltrate in both lungs, which was unresponsive to antibiotics. A diagnosis of invasive aspergillosis was assumed after serologic investigations revealed positive enzyme-linked immunosorbert assay IgG for Aspergillus and bronchoalveolar lavage cultures for Aspergillus species. After treatment with itraconazole, the erythrocyte sedimentation rate and chest radiograph normalized.

In summary, all four patients appeared to have developed an “opportunistic” pulmonary infection. They had no bronchietatic, bullous, or cystic lesions. They had not been treated with immunosuppressive agents, nor were they known to have an immunologic disorder, which could explain the infections. As the T-cell immune system plays an important role in mycobacterial and fungal infections, and corticosteroids are known to inhibit cellular immune responses, we postulated that these infections may have (partly) been due to the use of inhaled corticosteroids.

Considering these (and all the other) possible side effects of inhaled corticosteroids, plus the current lack of evidence supporting their efficacy in COPD, we agree with Drs. McEvoy and Niewoehner that such drugs should only be prescribed for these patients after their effectiveness has been proven for the individual.

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REFERENCES


To the Editor:

We read with interest the letter describing the case series reported by Dr. Smeenk and colleagues, published in the *Ned Tijdschr Geneeskd*.1 The inclusion of all available literature in comprehensive reviews is important and we appreciate the addition of this information. As is the case with most of the literature evaluating the adverse effects of corticosteroids, we should not interpret this case series as substantiating causation. Rather, case reports should incite hypothesis generation for prospective cohort or randomized controlled trials in both the...