not mutually exclusive and withholding possibly efficacious therapy before and during transport may not be justified. Let’s leave bloodletting to history and use exchange transfusions where they may be appropriate.

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REFERENCE


False-Low Carbon Monoxide Diffusing Capacity Measurement After General Anesthesia

To the Editor:

Patients undergoing bone marrow transplantation in our institution are usually followed up with single-breath carbon monoxide diffusing capacity (DL) measurements to monitor drug toxicity and other pulmonary abnormalities in the posttransplantation period. The baseline measurement is generally made on a day when no surgical procedures are planned.

Recently, we performed DL measurements on two such patients where no value for DL could be calculated. We noted that in both cases, the mixed expired carbon monoxide concentration (FECO) was higher than the value in the inspired tank (FICO), a physiologic impossibility. The DL measurements were repeated the next morning and were normal. The only common and unique factor in these two patients was that each had undergone minor surgical procedures with general anesthesia earlier on the day of the DL measurement.

One patient had placement of a Hickman catheter and bone marrow aspiration. General anesthesia consisted of isoflurane in a mixture of 60% nitrous oxide and 40% oxygen. The total time of anesthesia was 105 min. The second patient had placement of a Hickman catheter and a lumbar puncture; the same gas mixture as above was used for 130 min. DL measurements were made 2 to 4 h later.

We speculated that nitrous oxide still present in expired air was being read as carbon monoxide by the meter. To study this further, one of us (N.A.) inhaled nitrous oxide at 1 L/min by nasal cannula for 1 min, followed by serial measurements of DL. Results are shown in Table 1.

Table 1. Measurements of a Normal Subject

<table>
<thead>
<tr>
<th>Time After Inhalation</th>
<th>DL</th>
<th>FECO</th>
<th>FECO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>31.1</td>
<td>0.3</td>
<td>0.106</td>
</tr>
<tr>
<td>2 min</td>
<td>14.4</td>
<td>0.3</td>
<td>0.487</td>
</tr>
<tr>
<td>25 min</td>
<td>21.8</td>
<td>0.3</td>
<td>0.156</td>
</tr>
<tr>
<td>120 min</td>
<td>27.3</td>
<td>0.3</td>
<td>0.131</td>
</tr>
<tr>
<td>180 min</td>
<td>27.3</td>
<td>0.3</td>
<td>0.113</td>
</tr>
</tbody>
</table>

We realize that the recovery of this normal subject was much sooner than in the patients, but the concentration and time of inhalation of nitrous oxide was much less. Isoflurane could be responsible for some of the change, but certainly nitrous oxide alone can account for the phenomenon.

The false values in our two patients were so blatant that it was obvious that something was wrong. If the DL, however, had been measured some time later in the day or after lower inspired concentrations of nitrous oxide, then it may have led to the erroneous conclusion that DL was reduced. We are not aware of previous knowledge of this phenomenon and believe that physicians caring for these patients should be aware of this potential source of error in the determination of DL.

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Errata

In the article “Rapid Onset of Tolerance to the Bronchoprotective Effect of Salmeterol” by Bhagat et al (CHEST 1995; 108:1235-39), Figure 1 could be misinterpreted. The new Figure 1 that follows shows that the data points are still correct, but the standard error bars on the first four placebo (open circle) days were too long and are now more readable.

![Figure 1](http://journal.publications.chestnet.org/pdfaccess.ashx?url=/data/journals/chest/21727/ on 06/25/2017)