Head-box for CPAP

To the Editor:—It has been called to my attention that the use of a head-box in the application of CPAP in infants and children as well as adults was first described by Alvan Barach and his co-workers in 1936 and 1937 (1,2). In my recent editorial (3), I refer to the use of a head-box by Gregory and co-workers for the application of CPAP in infants with respiratory distress syndrome, but failed to point out the prior use of the device by Barach.

I would also recommend to interested readers the excellent review of this subject by Barach and others (4), which describes the history of continuous and intermittent positive pressure breathing in considerable detail.

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2. Kerman JD, Barach AL: Role of helium in cases of obstructive lesions in the trachea and larynx. Arch Otolaryngol 26:419–447, 1937

(Accepted for publication February 2, 1976.)

Gastric Juice in Obesity

To the Editor:—In the December issue (ANESTHESIOLOGY 43:686–689, 1975), Vaughn and Bauer claim to find both a larger volume and a lower pH of gastric juice in obese patients. Unfortunately, they failed to correlate their data with acid-base changes in arterial blood. The obese patient verging upon respiratory insufficiency and CO₂ retention is placed in a more precarious state when given depressant preanesthetic medication (Innovar, 1–2 ml, and diphendylamine), also in the supine position. Considerable respiratory acidosis could have been present, possibly, therefore, reflected by increased H⁺ concentration in gastric juice. Patients in chronic renal failure with metabolic acidosis demonstrate this phenomenon. Increased H⁺ is present in the duodenum as well. The gut also acts as a secretory route for urea, the ammoniacal odor on the breath being indicative of NH₃ in resulting from splitting of the urea molecule. It is questionable, therefore, to advocate rapid or topical intubation of the trachea in every obese patient on the basis of insufficient evidence of this kind.

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REFERENCE


(Accepted for publication February 3, 1976.)

To the Editor:—We appreciate Dr. Vandam’s interest. All 56 of the obese patients (groups IA and IB) had arterial blood-gas studies performed pre- and intraoperatively. These measurements were obtained with the patient breathing room air in the supine position both preoperatively (unpremedicated) and just prior to induction of anesthesia (premedicated). Values for the acid–base variables (mean ± SE) in the 56 obese pa-
patients who received preanesthetic medication were:

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<th>$P_{ac}$ (torr)</th>
<th>Base excess (mEq/l)</th>
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<tbody>
<tr>
<td>Unpremedicated</td>
<td>35.7 ± 0.8</td>
<td>0.5 ± 0.6</td>
</tr>
<tr>
<td>Premedicated</td>
<td>37.4 ± 0.7</td>
<td>0.7 ± 0.4</td>
</tr>
<tr>
<td>Significance</td>
<td>&lt;0.01</td>
<td>&gt;0.05</td>
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</tbody>
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None of the 56 patients manifested carbon dioxide retention (pickwickian syndrome) preoperatively. Our experience that obesity hypoventilation syndrome is rare even in excessively obese individuals agrees with findings of other investigators. Preanesthetic medication (Innovar, 1.0–2.0 ml, and diphenhydramine) caused a statistically significant increase in mean $P_{ac}$, although the increased value was always within the normal range. Furthermore, base excess values were unchanged statistically by preanesthetic medication.

Despite normal acid–base values in obese patients prior to anesthetic induction, there was both an increased volume and a lower pH of gastric juice. Consequently, our conclusion that one should consider either tracheal intubation using topical anesthesia with the patient awake or a rapid intravenous induction–intubation sequence seems valid.

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(Accepted for publication February 3, 1976.)