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Nasopharyngeal Airways and Nasotracheal Suction

To the Editor:—The unusual complication of nasotracheal suction reported by Ho and Weinger[1] is interesting but not a new phenomenon. A retained nasopharyngeal airway was described previously[2] in a mentally subnormal patient who had a persistent nasal discharge for 1 yr following a dental extraction under general anesthesia. He required further examination under general anesthesia to remove a 6-mm Portex nasopharyngeal airway that had been in his nasopharynx since the previous operation.

The solution advanced by Portex to prevent such eventualities[3] was to include a standard safety pin in the sterile nasopharyngeal airway pack. The safety pin is inserted into the rubber of the flange before the tip of the airway is inserted into the nares, thus preventing the airway from advancing into the nasopharynx. Objects inserted through the nasopharyngeal airway, such as suction catheters, fiberoptic bronchoscopes, and nasogastric tubes, can exert considerable force—tending to push the airway into the nasopharynx—that may be prevented by use of the safety pin.

A similar case[4] was described in a patient in whom a 28-F Rusch nasal airway was used to aid nasotracheal suction. This airway has a detachable, adjustable flange to aid correct positioning of the distal tip of the airway. Such flanges may be more likely to migrate into the patient as described. I investigated the positioning of the distal end of the nasal airway in the hypopharynx[5] and suggested alternative methods of ensuring correct positioning—including a better knowledge of the distance between nares and glottis and the standardization of lengths and internal diameters of nasal airways between manufacturers. In addition, nasal airways could be marked externally in centimeters to indicate the length, which has been done in a similar fashion to tracheal tubes.

By means such as these, this useful addition to airway management may be made safer and more reliable.

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The "Ozone-friendly" Lidocaine Spray Affects the Monitoring of Volatile Anesthetics

To the Editor:—A new presentation of the 10% lidocaine spray, free of any propellant gas (the former presentation contained trichlorofluoromethane and dichlorodifluoromethane, 50 g in 80 ml), was marketed recently by Astra Pharmaceuticals. We observed by chance that spraying it on the vocal cords of a patient altered over the subsequent 40–60 s the measurement of the inspired and expired concentrations of the volatile anesthetic in use, as monitored with a Capnomac device (Datex, Helsinki, Finland). We therefore prospectively studied 15 children during induction of anesthesia with halothane in oxygen and nitrous oxide delivered *via* a Jackson Rees modification of Ayre's T piece. Their vocal cords were sprayed with two puffs (20 mg) of lidocaine spray (using either the new, n = 9, or "old," n = 6 formulation) when the level of anesthesia was sufficient to allow tracheal intubation without muscle relaxants. Topical anesthesia of the glottis was performed quickly and the concentration of halothane delivered was kept constant. The inspired and expired concentrations of halothane were measured continuously with a Capnomac device (delay time for changes in halothane concentration 580 ms),[1] the gases being sampled *via* a special connection at the elbow of the anesthetic mask. Figure 1 compares, for each case, the halothane concentration measured before spraying the cords with the highest value measured within the 60 s following the spraying.

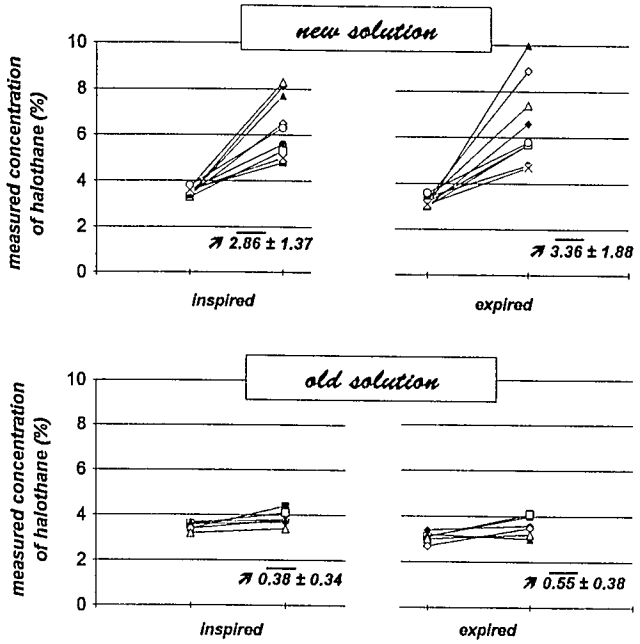

Fig. 1. Inspired and expired concentrations of halothane, as measured with a Capnomac, just before and during the 60 s (maximum value) after spraying the vocal cords of each child with 20 mg of the new (top panel) or old (bottom panel) presentation of the 10% lidocane spray. Mean values (±SD) of changes are included in the graphs.

These errors in measurement typically lasted for about 1 min and probably were caused by the increased concentration of ethanol added to the new presentation. It is well known that the measurement of anesthetic vapors by absorption of infrared radiation is affected by ethanol.[2]

Although the interaction was brief, we do not know whether repeated use of this new presentation could damage or more permanently affect the accuracy of the monitoring device.

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In Reply:—Veyckemans *et al.* have demonstrated the effects of ethanol on measurement of anesthetic agents by infrared analysis. The effect of sampling gas containing ethanol is acknowledged in the Capnomac operator's manual. It should be noted that other anesthetic agent gas monitors can exhibit similar effects when exposed to ethanol.

The authors questioned whether ethanol can damage the monitor. Ethanol has no long-term effect on the accuracy, nor does it decrease the performance of the monitor. We recommend that users disconnect the sampling line for 5 min when administering lidocaine or any other nebulized medications.

The newer Capnomac Ultima with agent identification measures and compensates for the effect of ethanol. This provides the clinician with a more accurate display of anesthetic agent concentration when ethanol is present.

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