CORRESPONDENCE

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Severe Dysphonia after the Use of a Laryngeal Mask Airway

To the Editor:—We read the article by Cros *et al.*[1] regarding the case reports of recurrent laryngeal nerve palsy and arytenoid dislocation after the use of a laryngeal mask airway (LMA), and would like to make the following observations. The authors state that in cases 1 and 2, a misplacement of the LMA could be excluded because there was no obstruction to the breathing and because it appeared to be positioned correctly. However, it has been shown that even a malpositioned mask may function well and appear to be positioned correctly,[2] but the cuff may not occupy its intended position when verified by fiberscopy.[3]

It is not clear whether the authors used the standard technique of insertion[4] or any other alternate technique. The current evidence suggests that the use of the standard technique, which is based on the physiologic principle of swallowing, reduces the incidence of malpositioning.[5] However, the standard insertion technique is not easy to master, and there is a long learning curve.[6] Moreover, even with a nonstandard technique, a satisfactory airway can usually be achieved. This encourages beginners to adopt a complacent attitude toward practicing the standard technique, such a tendency should be discouraged. During the insertion of an LMA, close attention to detail is necessary, *e.g.*, during cuff inflation the mask should not be held down but allowed to take up the final position freely and only after this step the tube should be fixed facing caudally.[4] Holding the mask down at the time of cuff inflation may lead to transmission of excessive pressure on the surrounding mucosa by allowing the mask to be fixed in an inappropriate position.

In case 2, the LMA was lubricated with silicone spray. Silicone based lubricants are contraindicated for use with an LMA as they degrade the material and alter the dimensions of the cuff.[4] A significant change in cuff compliance and shape could exert uneven pressure on the surrounding mucosa, leading to the complication described in this patient.

The LMA is a very user-friendly and safe device; severe morbidity after the use of an LMA is rare and may further be reduced by meticulous preparation and the adoption of the standard technique.

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In Reply:—In cases 1 and 2, the laryngeal mask airway (LMA) was inserted by an anesthetist who routinely use this technique. Insertion was performed in both cases with the standard technique described and recommended by Brain.[1] The cuff was fully deflated before insertion, and the LMA was not held during inflation.

After placement and cuff inflation, signs of correct placement were checked, (*i.e.*, forward projection of the thyroid and cricoid cartilages, short tubing protruding from the mouth, black line facing cranially, no audible sound of obstruction, and no difficulty in manual ventilation). I agree with Drs Bapat and Verghese that a misplacement could not be completely eliminated as correct position was not confirmed by fiberscopy.

However, if a malposition had resulted in a superior laryngeal nerve palsy, this could not explain other symptoms (*i.e.*, severe dysphagia and laryngeal incompetence lasting several months). Progressive worsening of dysphonia and dysphagia and the duration of symptoms are in favor of an ischemic inflammatory reaction located in the posterior cricoid region.

I agree that silicon spray used for lubricating the LMA in case 2 may have degraded the structure of the material, resulting in lower compliance of the cuff and higher pressure transmitted on the pharyngeal mucosa. Whatever were the exact causes, the most probable hypothesis is an excessive pressure exerted against the pharyngeal

wall. This justifies monitoring the intracuff pressure and limiting this pressure to 60 cm H_20^2 or to the "just seal pressure."[3]

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Anesthesia-related Deaths during Obstetric Delivery in the United States. 1979–1990

To the Editor:—In their recent article on anesthesia-related deaths during obstetrical delivery in the United States, Hawkins *et al.*[1] compare case fatality and risk ratios for cesarean delivery during general anesthesia with those during regional anesthesia. The authors describe a significant downward trend in the death rate for cesarean delivery during regional anesthesia after 1984. To explain the higher death rate for cesarean delivery before 1984, the authors surmise that the use of bupivacaine, 0.75%, for epidural analgesia, before its removal from the market, was responsible.

Although they may be correct, a second factor not considered by the authors—the use of single-shot epidural dosing through a Tuohy-type needle without catheterization—may also have contributed to a higher case fatality rate during the earlier period. As universally taught now, insertion of a catheter into the epidural space allows for repeated administration of smaller drug doses than occurs when giving a "single shot" of a "sufficient" drug dose. Theoretically, the use of incremental small doses limits the deleterious consequences of intravascular or subarachnoid injection and, therefore, should lower the incidence of complications from such injections.

Hawkins *et al.* may not have had access to separate data for single-shot, as opposed to continuous catheter, epidurals in this setting, but it is our understanding that the single-shot technique was widely used in obstetrics before 1984. Even in 1987, for example, Dain *et al.*[2] argued the safety of single-shot epidural local anesthetic use in obstetrics, albeit restricted to the anticipated end of stage 1 labor, and cited its widespread practice at that time. We are not writing to advocate the reintroduction of bupivacaine, 0.75%, for labor epidural analgesia but rather to support current teaching that intermittent epidural injection of small drug doses is inherently safer than single injections of large drug doses. We also believe that the authors' data reflect the improved safety.

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