

CORRESPONDENCE

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Supraglottic Obstruction *versus* True Laryngospasm: The Best Treatment

To the Editor:—It was with great interest that I read Dr. Larson's description of "the best treatment" for laryngospasm.¹ I am not only familiar with the said maneuver, but have had the opportunity to use it on multiple occasions. In my experience it only works in the semiconscious patient with supraglottic obstruction that is unrelieved by simple airway support measures. I believe that it works because the intense stimulus induces an increase in the tone of many muscle groups, including those that support the airway. This serves to enhance the effectiveness of the jaw thrust maneuver. It is highly unlikely that the stimulus directly relaxes the vocal cords because this maneuver is ineffective in the absence of proper jaw thrust. Applying significant pressure posterior to the angle of the mandible achieves the twin purpose of jaw thrust (provided the jaw is unlocked) and a pain-induced change in the level of anesthesia.

The diagnosis of airway obstruction during the perioperative period is very difficult. It is sometimes impossible to differentiate clinically between true laryngospasm and unrelieved supraglottic obstruction. Inspiratory stridor and intercostal and subcostal retractions associated with rapidly deteriorating oxygenation can be consistent with both supraglottic obstruction or laryngospasm. The diagnosis can be confirmed only by directly visualizing the vocal cords while the patient makes inspiratory efforts.

I practiced anesthesiology for 5 yr in New Delhi, India, with halothane and ether (slow wake-up times). At the time of extubation we suctioned the pharynx under direct laryngoscopic vision and then, when ready, extubation was accomplished under direct vision, noting the condition and function of the vocal cords. The blade was removed and an airway was placed. This practice taught me two important lessons: (1) unrelieved supraglottic obstruction is far more common than laryngospasm, and (2) nothing works better than a laryngoscope blade for supraglottic obstruction.

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1. Larson CP: Laryngospasm—The best treatment (letter). *ANESTHESIOLOGY* 1998; 89:1293-4.

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Laryngospasm Treatment—An Explanation

To the Editor:—Dr. Larson described pressure in the "laryngospasm notch," the depression just posterior to the condyle of the mandible, as the best treatment of laryngospasm.¹ He has had 40 yr of success with this treatment but is unsure why it works. I agree with his clinical observations and offer some additional thoughts from 28 yr of successfully using and teaching the technique.

Pushing in the postcondylar notch applies pressure to the styloid process, a bony spicule on the base of the skull. Bending the styloid process creates intense periosteal pain, which disappears as soon as the pressure is released. This pain is easily felt by pushing on one's own styloid process. Having residents locate this site in themselves quickly teaches how to find it in patients. Dr. Larson advocates pressure at the most proximal site in the notch as most effective. I also have advocated this site after possibly fracturing a styloid process from too distal pressure early in my career.

Larson is able to hold a mask on the face of a patient with his

thumbs and first fingers while pushing behind each mandibular condyle with his middle fingers. Although I occasionally use this technique, many practitioners find it difficult. Another technique, which I prefer and find easier to teach, is to hold the anesthesia mask with my left hand and apply pressure in the postcondylar notch with my right. This unilateral technique usually permits a good mask seal and the build-up of positive airway pressure when the pop-off valve is closed while relieving the laryngospasm. If bilateral postcondylar pressure is needed, I usually have an assistant hold the face mask.

Intense stimulation caused by postcondylar pressure can be observed in a lightly anesthetized patient breathing without airway obstruction. Pressure in such a patient usually causes a sigh, and if the anesthesia is very light, a facial grimace. Postcondylar pressure can thus also help determine the depth of anesthesia during emergence.

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1. Larson CP: Laryngospasm—The best treatment. *ANESTHESIOLOGY* 1998; 89:1293–4

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In Reply:—Dr. Rajan suggests that the treatment I proposed for laryngospasm works only for supraglottic but not for glottic obstruction. This is true if the pressure is applied to the ramus of the mandible anywhere below the laryngospasm notch. To be effective, the operator must be cephalad enough to feel the base of the skull as inward pressure is applied. I would not recommend attempting direct laryngoscopy as a treatment for laryngospasm because it is unnecessary, time-consuming, often ineffective, and potentially traumatic to the larynx. Dr. Johnstone's theory of bending the styloid process and producing periosteal pain as an explanation for why pressure in the "laryngospasm notch" reverses laryngospasm is as valid as any proposed by me. In addition, once one is experienced and comfortable

with the technique, firm pressure on one "notch" while holding the mask with the other hand is effective. If unilateral pressure should fail, I recommend returning to bilateral pressure and, if necessary, having an assistant hold the mask as Dr. Johnstone suggests.

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Trademark?

To the Editor:—I noticed in a recent response to a letter to the editor,¹ Dr. Daniel Sessler lists as part of his affiliation Director, Outcomes Research™ Laboratory. I find myself absolutely intrigued by this, particularly because they have chosen to trademark the more generalized "Outcomes Research" rather than the more specific "Outcomes Research Laboratory." I would appreciate it if Dr. Sessler or one of his colleagues from Vienna could explain to us the implication of this trademark. For example, does the use of the term "Outcomes Research" require prior consent, or do we owe the University of Vienna a groschen or two each time we use the phrase "Outcomes Research"?

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