The Modified Nasal Trumpet: Revisiting a Novel Technique

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ABSTRACT

Many different techniques and a variety of instrumentation have been developed to assist in management of the difficult airway. Otolaryngologists represent a critical role in treating patients and establishing safe ventilation. It is, therefore, important to be aware of the use of the modified nasal trumpet technique.

Beattie reported his experience in 2002 in which he reviewed the success with this technique in 35 patients over 15 years. In these difficult airway patients, many of whom could be classified as "cannot ventilate / cannot intubate," a safe non-surgical airway was able to be readily established. In 2004, Metz reviewed the use of the modified nasal trumpet in 346 spontaneously breathing patients and concluded that the technique was useful when used alone to provide general anesthesia, to provide supplemental oxygen after extubation, and to facilitate fiberoptic intubation.

INTRODUCTION

A standard nasopharyngeal airway appropriate for the patient’s age and size is selected. An endotracheal tube connector is then inserted into the proximal end of the nasopharyngeal airway. This modified nasal trumpet can then be easily placed in the standard fashion. A Jackson Rees or AmbuBag device can be attached to the endotracheal tube connector to provide positive pressure. This is facilitated by using one hand to simultaneously close the contralateral nare, seal the mouth, and provide a jaw thrust similar to the technique used for bag-mask ventilation.

Alternatively, the anesthesia circuit can also be attached to provide supplemental oxygen or inhalational anesthesia, and end-tidal carbon dioxide monitoring can also be performed. This technique can be utilized to provide a more controlled setting while performing fiberoptic intubation through the contralateral nasal airway.

TECHNIQUE

The modified nasal trumpet technique has been successfully used by the senior author for decades. It is a useful tool in the management of the difficult airway and can also be used in situations where bag mask ventilation would be used. Previous reviews of this technique have advised cutting a Murphy eye in the distal end of the nasopharyngeal airway; however, we have found that this is not necessary when the size of the nasopharyngeal airway is properly selected and then the device is placed appropriately.

Walz and Bund recommend an alternative to the use of the modified nasal trumpet. They suggest using a shortened endotracheal tube for the same purpose. However, the modified nasal trumpet is a superior choice due to its soft, flexible design which leads to less potential for trauma during insertion.

DISCUSSION

The technique is simple and effective and utilizes materials that are readily available. It eliminates issues with poor mask fit and allows access to the oral cavity during the administration of anesthesia. Most importantly, the modified nasal trumpet technique is easily learned.

The modified nasal trumpet technique offers a method of quickly establishing a patent airway with the ability to administer supplemental oxygen and inhalational anesthesia. This technique is also useful in assisting with fiberoptic intubation.

Additionally, end-tidal carbon dioxide monitoring can be performed. This proves especially useful in managing the spontaneously breathing patient.

CONCLUSIONS

The modified nasal trumpet technique is an important skill in management of the difficult airway that should be familiar to all Otolaryngologists. It is useful in a wide variety of clinical settings in pediatric and adult patients and utilizes materials that are readily available.

REFERENCES