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Case Report: Use of gum elastic bougie in facilitating blind nasotracheal intubation in children: A series of three cases

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Introduction: Management of a difficult airway in pediatric patients is challenging. The unavailability of a pediatric fiber optic bronchoscope, as is common in developing countries [1] makes it even tougher. Children with bilateral temporomandibular joint ankylosis have limited mouth opening and hence direct laryngoscopy and intubation is usually not possible. In the absence of a pediatric fiber optic bronchoscope, blind nasal intubation remains the only non-surgical option for airway control. Blind nasal intubation in pediatrics is difficult. Various adjuncts have been used to facilitate blind nasal intubation [2-5], but none in pediatric population. We describe three pediatric patients in whom we successfully intubated the trachea using blind nasal approach facilitated by a gum elastic bougie.

Case Report: We had three pediatric patients, having none or mild mouth opening associated with micrognathia. This made orotracheal intubation impossible and in the absence of a fiber optic bronchoscope, blind nasal intubation the only choice. We tried the conventional approach to blind nasal intubation in spontaneously breathing patients and did not succeed. The passage of another tube into the esophagus and paralysis of the vocal cords did not make things easier. As a last resort we decided to use the gum elastic bougie and we succeeded.

Discussion: Diseases affecting the temporomandibular joint affect airway management by limiting jaw movement and mouth opening. This can make conventional laryngoscopy an unlikely option [6]. Difficulty in airway management is further compounded if there is associated micrognathia. In the absence of a pediatric fiber optic bronchoscope blind nasal intubation remains the only choice. It is somewhat more difficult to perform in children because of the more cephalad position of the larynx, more fragile nasal mucosa, narrow nasal passage and needs more experience.

We present this novel approach of using a gum elastic bougie along with another tube in the esophagus to facilitate blind nasal intubation. The ease with which we could intubate the trachea blindly using bougie encourages us to propose this as an alternate technique for blind nasal intubation especially in pediatric patients. We did not have trauma and either oral or nasal bleed in any of our patients, indicating that our technique is safe as well as easy to perform. This technique could make blind nasal intubations much easier and successful especially where fiber optic bronchoscope is unavailable.

References:

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