CORRESPONDENCE

An endotracheal tube as a conduit for neonatal tracheostomy

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To the Editor,

In current practice, tracheostomy tubes come with an obturator to facilitate insertion. Size charts are available to choose the appropriate endotracheal tube (ETT)/tracheostomy tube depending on the physical characteristics.¹ We wish to describe our experience with an 18-day-old, 4-kg baby boy posted for emergency surgical tracheotomy in whom the first attempt to insert a 3.5-mm Rusch® tracheostomy tube failed (Teleflex, Wayne, PA, USA). The surgeon decided to reintroduce the tracheostomy tube without the obturator as it was stiff and the tracheotomy site was narrow. A 3-mm uncuffed ETT was inserted into the tracheal tube in place of the obturator. The ETT was first inserted into the stoma and then connected to the ventilatory circuit for ventilation. The tracheostomy tube was then railroaded over the ETT (Figure). This process took considerably less time than introducing the tracheostomy tube itself as it was a smaller ETT without the added dimension of the cuff.

The same technique of “tracheostomy tube over ETT” was successfully used in a second, 22-day-old, 4-kg term neonate with anticipated difficult tracheostomy and low

pulmonary reserve. This technique helped maintain arterial oxygen saturation while providing precious additional time to insert the tracheostomy tube. Other advantages include continued oxygenation, end-tidal carbon dioxide monitoring for prompt confirmation of correct placement of the airway device, and providing an option of a secure airway when the tracheostomy tube may need to be replaced with a different size. While we did not encounter any complications in these two cases, we caution readers against overzealous ventilation or oxygen insufflation at high flows as this can lead to barotrauma or emphysema if introduced into a false tract.

The National Tracheostomy Safety Project guidelines describe emergency management algorithms to minimize various pediatric tracheostomy-related concerns through preparation and education of staff, parents, and care providers.² These guidelines suggest using an ETT for transtracheal intubation in cases of emergency oxygenation. We improvised on this idea by using the ETT to ventilate the baby and act as an obturator for a more established and definite airway via the tracheostomy tube.

We hope that our experience with this technique in these two cases may provide our readers with a method to keep the airway secure when inserting pediatric tracheostomy tubes in children with low pulmonary reserves.

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Figure The endotracheal tube has been inserted into the tracheal stoma site to act as a conduit to railroad the tracheostomy tube over it.

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