

Impact of a Novel Technique of S-Shaped Tracheostoma in Pediatric Tracheostomy in Intensive Care Unit on Success and Procedure Related Complications

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Abstract : Objectives: Pediatric patients often may experience persistent respiratory failure that requires tracheostomy placement in Pediatric ICU. We have designed a technique of tracheostomy in pediatric patients with S-shaped incision on the tracheal wall with higher success rate and lower complication rate. Technique: Following general anesthesia and positioning of the patient, the trachea was exposed in midline by a vertical skin incision. In order to make S-shaped tracheostoma, second tracheal ring was identified. The conventional vertical incision was made in second tracheal ring and then extended at both its ends laterally in the inter-cartilaginous space parallel to the tracheal cartilage in the opposite direction to make the incision S-shaped. The trachea was dilated with tracheal dilator and appropriate size of tracheostomy tube was then placed into the trachea. Results: S-shaped tracheostomy was performed in 20 children with mean age of 6.25 years (age range is 2-7) requiring tracheostomy placement. The tracheostomy tubes were successfully placed in all the patients in single attempt. There was no incidence of significant intra-operative bleeding, subcutaneous emphysema, vocal cord palsy or pneumothorax. Two patients developed pneumonia and expired within a year. However, there was no incidence of tracheo-esophageal fistula, suprastomal collapse or difficulty in decannulation on one year of follow up related to our technique. One patient developed late trachietis managed conservatively. Conclusion: S-shaped tracheoplasty was associated with high success rate, reduced risk of the early and late complications in pediatric patients requiring tracheostomy.

Keywords : peiatrics, tracheostomy, ICU, tracheostoma

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