CHARACTERISTICS AND OUTCOMES OF PATIENTS WHO HAD BEDSIDE TRACHEOSTOMY PERFORMED IN THE INTENSIVE CARE UNIT

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Introduction: Tracheostomy is commonly performed in the intensive care unit (ICU) for critically ill patients who are anticipated to require prolonged mechanical ventilation. However, there is minimal literature describing the course of ICU patients who have a tracheostomy inserted in the ICU.

Objectives: To describe the demographics and outcomes of patients who had open bedside tracheostomy procedures performed in the ICU.

Methods: Retrospective chart review of all patients who underwent non-urgent tracheostomy insertion in the ICU between February 2009 and April 2013. Data collected from patient records included: 1) age, gender, past medical history, APACHE II score, reason for admission; 2) tracheostomy procedural details and complications; and 3) outcomes: length of mechanical ventilation, decannulation details, ICU and hospital length of stay and mortality.

Results: 97 patients had open tracheostomy performed by the Otolaryngology service in the ICU; 53% (n=51) were male, 59±17 years, APACHE II score 27±8. The majority (n=66, 68%) of patients were admitted for respiratory issues. Tracheostomy was performed between days 1 and 39 post-intubation; the mean ICU day was 15±8 days. The largest proportion of tracheostomies were performed between day 7-12 (25%, n=24), day 13-18 (24%, n=23) and day 19-24 (21%, n=20), with fewer undergoing the procedure between day 1-6 (15.5%, n=15) and day 25-39 (15.5%, n=15). For procedural sedation, 52 of 95 patients (54.7%) received propofol, fentanyl, and midazolam, 38.9% (n=37) received 2 of these, and 6.3% (n=6) received only one. Of 93 patients, 62 (67%) received a neuromuscular blocker and 54% (n=50) received phenylephrine during the procedure. 40% of patients were receiving sedative infusions on the day of tracheostomy; infusion rates fell to 22%, 15%, and 10% on days 1, 2 and 3 following tracheostomy, respectively. The most commonly inserted airway was the #6DCT (n=65, 68%). 8 of 96 patients experienced complications during the procedure: desaturation (n=4), excessive bleeding (n=3), and hypotension (n=1). The most common early complication (within 48 hrs), was bleeding at tracheostomy site (n=22); and complications after 48 hrs included skin necrosis at the site (n=26), mucous plugs (n=25), and bleeding (n=17). 75% of patients had at least 1 tracheostomy change while in hospital. 80 patients were weaned from ventilation while at MSH; 67 of them survived and their average duration of mechanical ventilation was 27±17 days. Thirty-four patients (35%) died with tracheostomy in place, 30 (31%) were discharged to another hospital with the tracheostomy, and 8 (8%) were discharged to a long term care facility with the tracheostomy. Twenty-five (26%) were decannulated at Mount Sinai, with 23 (24%) of these patients surviving to hospital discharge.

Conclusion: Bedside tracheostomy in the ICU was performed on average 15 days after intubation and initiation of mechanical ventilation, but the timing ranged widely. Procedural
complications were rare. For patients receiving sedative infusions, the majority were discontinued by day 3 post-procedure. There were a few early and late tracheostomy complications, most commonly bleeding and local skin necrosis.

References: NA