Management of Unexpected Intraoperative Subglottic Tracheal Stenosis

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Introduction: Subglottic stenosis may be congenital with most severe cases diagnosed in childhood, or acquired. Most acquired stenotic lesions are secondary to endotrachial intubation with increased duration of intubation correlated with incidence of subglottic stenosis.

Case Report:

TC was an 86M scheduled for robot assisted laproscopic partial cystectomy with bilateral lymphadenectomy. PMH included CVA without residual symptoms, small ascending aortic aneurysm, HTN, new onset atrial fibrillation on warfarin, bladder cancer s/p TURBT 1 month prior to day of surgery, prostate cancer, and aortic regurgitation s/p AVR 6 months prior to day of surgery. Airway exam was WNL. After a slow controlled induction, an 8.0 endotrachial tube was placed through the vocal cords but was met with resistance. Ventilation was possible with adequate end tidal co2. The 8.0 ETT was removed and replaced with a 7.0 tube and then a 6.5 with the same result. ENT was called to evaluate for subglottic stenosis. Intraoperative bronchoscopy confirmed stenosis approximately 2 cm below the vocal cords. The bronchoscope itself was unable to easily pass distal to the obstruction. The decision was made to abandon the original procedure. The patient also received 10mg of Dexamethasone. After extubating the trachea the patient was able to maintain his airway.

PACU Course: ENT and thoracic surgery were on standby in the recovery room, a bronchoscope was placed at the bedside as well. The patient received a dose of racemic epinephrine. Vital signs remained stable and he was ultimately discharged after being cleared by anesthesia and ENT, with thoracic surgery and GU follow up.

Conclusion: Unexpected subglottic stenosis is difficult to manage and may lead to significant patient morbidity and mortality. Coordination between multiple specialties including Anesthesia, ENT surgery and Thoracic surgery, as well as recovery room planning and nursing will yield the best outcome when dealing with this trying scenario.