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Commentary: Rome was not built in a day...

Thomas Schweiger, MD, PhD, and
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Laryngotracheal-resection techniques belong to the most challenging airway procedures, with several factors contributing to their complexity: (1) the low incidence of laryngotracheal stenosis; (2) the delicate anatomical and functional characteristics of the laryngeal framework; (3) the required surgical expertise necessary to maintain the functional integrity of the larynx especially in extended resections; and (4) the devastating effects of complications.

Over the years, an increasing number of specialized referral centers that treat patients with laryngotracheal pathologies have developed. Starting with only around 5 laryngotracheal resections per year, the Rome group has steadily increased their case load over the years. In this issue of the *Journal*, Maurizi and colleagues¹ report their summarized institutional experience covering a time period of almost 3 decades. The authors have to be congratulated on their excellent results in a meanwhile unique, large cohort of patients. With more than 40 laryngotracheal resections per year, the center belongs to the largest of its kind in Europe. A long-term treatment success—defined as permanent restitution of the airway and a good functional outcome—was achieved in 98.7% of patients. Once more, it was demonstrated that laryngotracheal resection provides a definite solution for patients, who had often gone through an odyssey of previously failed endoscopic treatment attempts. Moreover, the presented cohort shows that even stenoses involving the glottic level have meanwhile become amendable to surgical repair. Several novel reconstruction techniques for formerly unresectable stenosis have been reported in the literature.²⁻⁴ Noteworthy, all

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CENTRAL MESSAGE

A close collaboration of airway centers and multi-institutional outcome reporting is warranted to further improve functional results after laryngotracheal surgery.

of these surgical innovations came from dedicated airway teams at high-volume centers.

An unquestioned disadvantage of laryngotracheal resection is its impact on voice quality.⁵ By disrupting the functional interplay between the cricoid and the thyroid cartilage, a reduced pitch range and a reduced fundamental frequency is found in most patients. Several efforts have been made to minimize the impact of cricotracheal resection on voice quality by preservation and reinsertion of the cricothyroid muscle, by preserving the lateral parts of the cricoid arch and by leaving the cricothyroid membrane intact.^{6,7}

With the advent of well-established airway centers and the growing routine of these programs, we believe it is high time to join our forces and start reporting outcomes of laryngotracheal surgery in a multi-institutional manner. First efforts have been made by the North American Airway Collaborative, a consortium of 30 Anglo-American centers.⁸ Recently, the European Society of Thoracic Surgeons and the Brazilian Society of Thoracic Surgeons have developed a joint database that aims to capture all technical details of laryngotracheal procedures and to provide a uniform reporting on functional outcomes.

Taking evidence of airway surgery to the next level—from single-center reports to multicenter databases—will need considerable effort, resources, and time. But after all, Rome was not built in a day...

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Commentary: Inching north up the airway: Thoracic surgeons as complete airway surgeons

Cameron D. Wright, MD

Benign subglottic stenosis is most commonly due to prolonged intubation or idiopathic laryngotracheal stenosis. The 2 patient populations are different. Subglottic stenosis due to intubation usually has more involvement of the distal trachea, which can complicate repair because of the length of the involved stenosis, but often spares the subglottic space above the cricoid. Patients with idiopathic stenosis are almost always women with minimal involvement of the trachea, but their disease always extends for a variable amount of distance above the cricoid and can even involve the glottis. Both patient cohorts require resection of both the anterior cricoid and a variable amount of trachea to reconstruct their airway. Whereas a standard cervical trachea

Endoscopic view of a patient with classic severe idiopathic laryngotracheal stenosis.

CENTRAL MESSAGE

Laryngotracheal resection for subglottic stenosis in high-volume centers offers patients a single intervention with excellent long-term results.

resection is a straightforward reproducible operation with excellent results when the larynx is involved, the difficulty is greater and the margin for success is less. The challenges to repair a subglottic stenosis include restoring a reasonable airway in the narrowest portion of the airway (the cricoid), a variable extension of disease above the cricoid into the subglottic space, the proximity of the vocal cords, and the tendency for the vocal cords and immediate subglottic submucosal space to become edematous and thus narrow the airway after operation. The repair of subglottic stenosis is not for the occasional surgeon.

Maurizi and colleagues¹ report a retrospective series of laryngotracheal (cricotracheal) resections for subglottic stenosis from a high-volume center (average of 30 patients per

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