

The reader opening the following collection of case series, case reports, reviews and editorials awaits a diverse description of the current frontiers in tracheal and bronchial surgery. Least of its diversity derives from geographic region; most from varying predilections and visions of the authors, and how they conceive the future of thoracic surgery. Many contributions focus on minimally invasive adaptations of existing open techniques of trachea-bronchial resection and a few on extended parenchymal resection. This magnificent compendium would be misunderstood as a “State of the Art” report: too much in this debate is fluent, and too uncertain is the eventual outcome of evolving and at times competing surgical techniques.

A majority of articles embraces a revision of the most challenging thoracic resections by accepting a voluntary limitation of classic surgical approaches. Their differences may be broadly categorized as follows:

- (I) Restrictions of the traditional surgical access to the operative field guided by a perceived advantage in recovery from surgery, using video-assisted thoracic surgery and, in some cases, robotic-assisted or uniportal techniques.
- (II) Elimination of either endotracheal tube or muscle relaxation or both based on a perceived advantage in recovery.
- (III) Extension of the concept of bronchoplastic or arterioplasmic resection to resect more than one lobe or save sublobar parenchymal regions in central hilar malignant tumors.

As one may expect, no agreement exists regarding the classes of patients in whom such goals should be pursued: restrictive surgical approaches to tracheal and bronchial resection may be primarily applied in good-risk candidates (Jun Liu and associates, page 57). Conversely, extended resections for lung cancer aiming to preserve a sublobar number of bronchopulmonary segments are of particular relevance when cardiopulmonary reserve is limited (Hata and Waseba and their respective associates, pages 80 and 89). The benchmarks of open exploration in parenchymal resection are explained in the review of Maurizi and Rendina (page 95) who point to the limited usefulness of preoperative radiographic evaluation and the priority of parenchymal preservation over an assumed short-term benefit of a minimal-invasive approach in candidates for broncho- and arterioplasmic operations, among them elderly patients with comorbidities.

The tension among diverging priorities is predicted to occupy future thoracic surgical debates until minimal-invasive approaches have matured into established, favored techniques. The topic of carinal resection, the sleeve resection with the highest operative mortality, exposes this tension most clearly as concerns about surviving the first days intersect with those of later recovery. Along the way, additional questions for these highly complex, low-volume procedures wait to be addressed: how care may be centralized to offer patients the best outcome, and how to train the next generation of surgeons without turning our operations into carved layered ivory balls that occupy a lifetime to learn. Only rigorous studies reporting favorable and unfavorable outcomes will demonstrate the lasting value of these emerging techniques. The debate in this volume marks an important milestone in a longer journey.

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