Evolution of Endoscopic Surgery for Laryngeal Cancer

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Few diseases are as complex as cancer of the larynx. The impact of this disease on patients, the patient's families, and caregivers alike is unprecedented given how it affects the vital functions of language, swallowing, breathing and even appearance. For most of the last century the standard of care for laryngeal cancer was the total laryngectomy. More recently, conservation laryngeal surgery found advocates in parts of the world while nonsurgical chemo radiation (CRT) strategies have also recruited many advocates. Often in today's medical centers radiation with or without chemotherapy has relegated operative approaches to salvage status. However, during the recent shift away from primary surgery, laryngologists have noted rising complications of CRT, complications that may appear 5 or even 10 years later. These complications may not be evident at the time of the original publication and as a result may be underreported.

Newer laryngeal conservation operations are also creating new challenges. Perhaps the newest conservation approaches are those performed transorally, particularly in the case of advanced stage disease. While there are few if any randomize prospective trials comparing minimally invasive surgical approaches to organ preservation CRT, there are numerous multi-institutional series that merit a comparative review. Multiple papers report that transoral laser microsurgery (TLM) provides equal or superior oncologic outcomes and equal functional outcomes (at less cost) for early-stage laryngeal cancer. In the case of advanced stage laryngeal cancer as well as for supraglottic cancer, transoral laser microsurgery seems to provide equal or superior oncologic outcomes with higher laryngeal preservation rates compared to CRT. This seems particularly true of the T4 lesion.

In this presentation there will be a review of the medical literature surrounding endoscopic approaches for all stages of laryngeal cancer with an emphasis on functional outcomes and cost. Select still and video imagery will be presented to highlight appropriate case selection, instrumental and technical pearls, and pertinent inside-out anatomy, an understanding of which is crucial for endoscopic surgeons to provide complete and safe surgery. Special emphasis on margin clearance, and a careful look at the pitfalls of classic education on margin status is also discussed. At the conclusion of the presentation, the attendee should have a basic understanding of how to begin a practice of endoscopic laryngeal surgery, and TLM in particular, and be able to describe the differences and potential improvements over standard therapies. A review of the evolving role of Robotic surgery for laryngeal surgery is also discussed.

Key words: laryngeal cancer, transoral laser microsurgery, transoral robotic surgery, chemoradiation