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Mediastinum and Systematic Nodal Dissection



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10th International Workshop on Surgical Exploration of the
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BENIGN TRACHEAL STENOSIS: ENDOSCOPIC VS SURGICAL APPROACH

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Airway stenosis may arise as a sequelae of trauma, prolonged intubation, tracheostomy, or inflammatory diseases. Patient diagnosed with airway stenosis are usually offered endoscopic and surgical treatment options based on the severity and location of the stenosis. While endoscopic techniques usually provide a less-invasive, mostly temporary relief, surgical treatment remains the definitive solution for most patients with complex or severe airway stenosis.

Endoscopic interventions are often the first-line therapy, particularly in mild to moderate stenosis. Techniques such as balloon dilation, laser therapy, and mechanical debulking are employed to temporarily restore airway patency. However, endoscopic treatments are typically associated with high recurrence rates, as they do not address the underlying structural issues of the stenotic segment. Silicone stents or T-Tube implantation may be considered to maintain airway lumen. However, stents are generally reserved for high-risk patients who are not surgical candidates, due to potential complications such as migration, granulation tissue formation, and infection. These interventions can lead to a worsening of the situation by extending the affected airway and might later hinder the surgeon to offer a definite, surgical repair.

Surgical intervention is considered the gold standard and definitive treatment for airway stenosis, especially in patients with severe or recurrent disease. The most effective surgical approach is resection and primary anastomosis, where the stenotic segment is excised, and the healthy ends are anastomosed. In experienced hands, resection techniques are highly successful, with long-term outcomes showing low rates of recurrence and significant improvements in airway function. Depending on the location of the stenosis, surgical techniques include intrathoracic or cervical tracheal resection, cricotracheal resection or laryngotracheal reconstruction using cartilage grafts to enlarge the subglottic diameter.

In conclusion, while endoscopic treatments offer temporary relief in most patients, surgical management remains the definitive solution for airway stenosis. With appropriate patient

selection and meticulous surgical technique, long-term functional outcomes are highly favorable, offering patients durable resolution of symptoms and restoration of airway function.

Key references (1-3)

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