



Supraglottic Stenosis

Supraglottic stenosis is a rare laryngeal disorder of abnormal fibrotic changes or scarring of the supraglottic structures. Patients may present with the early symptoms of dysphonia and dysphagia or if severe, dyspnea, stridor and airway obstruction. Diagnosis is made by flexible laryngoscopy and if the etiology is not apparent, a thorough workup of autoimmune disease is warranted. Treatment starts with airway management, which may take the form of tracheostomy. Endoscopic airway surgery utilizing a variety of techniques and adjuncts has been reported to be effective in treating this condition but recurrence of stenosis is common.

Anatomy

- Supraglottic stenosis may involve the arytenoid cartilages, false vocal folds, aryepiglottic folds, or epiglottis.

Pathophysiology

- Supraglottic stenosis comprises roughly 3-4% of laryngotracheal stenosis and can be secondary to radiation therapy, autoimmune disease, infectious and inflammatory disease, caustic ingestion, and trauma.
 - Herrington HC, Weber SM, Andersen PE. Modern management of laryngotracheal stenosis. *Laryngoscope* 2006;116: 1553-7.
 - Sinacori JT, Taliencio SJ, Duong E, Benson C. Modalities of treatment for laryngotracheal stenosis: the EVMS experience. *Laryngoscope*. 2013 Dec;123(12):3131-6.
 - Stevens MS, Chang A, Simpson CB. Supraglottic stenosis: etiology and treatment of a rare condition. *Ann Otol Rhinol Laryngol*. 2013 Mar;122(3):205-9.

Treatment

- Historically, management of supraglottic stenosis was performed via an open approach (laryngofissure)
 - Montgomery WW. The surgical management of supraglottic and subglottic stenosis. *Ann Otol Rhinol Laryngol*. 1968 Jun;77(3):534-46.



- Initial treatment includes airway management with tracheostomy if indicated and appropriate medical therapy for underlying etiology when applicable
- Endoscopic airway surgery using the CO₂ LASER is effective, but often multiple treatments are needed due to recurrence. Mitomycin-C (0.4 mg/ml) can be used as a topical adjunct.
 - Vira D, DeConde A, Chhetri DK. Endoscopic management of supraglottic laryngopharyngeal stenosis. *Otolaryngol Head Neck Surg.* 2012 Apr;146(4):611-3.
- Awake in-office potassium titanyl phosphate (KTP) LASER therapy may be equally effective and in patients without a critically narrowed stenosis.
 - Stevens MS, Chang A, Simpson CB. Supraglottic stenosis: etiology and treatment of a rare condition. *Ann Otol Rhinol Laryngol.* 2013 Mar;122(3):205-9.