Anterior and posterior glottic webs

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A 39-year old woman presented with a 20-year history of difficulty breathing and hoarseness. This reportedly began after a significant motor vehicle accident that had left her comatose and intubated for several days in the ICU. Shortly after extubation, the patient had experienced shortness of breath with any exertion. Over the years, she had been diagnosed with intermittent asthma-like attacks. Because of increased symptoms of dysphonia in the months prior to her first visit to us, she sought out an otolaryngologist who then referred her to our voice clinic. The patient presented with a moderate to severe hoarse/breathy voice with intermittent inspiratory noise. Videostroscopy revealed both anterior and posterior glottic webs along with significant stenosis (figure, A).

Spirometry revealed a normal forced vital capacity at 3.73 liters. The patient's FEV$1$ (forced expiratory volume in 1 second) was significantly reduced at 1.47 liters (51% of predicted).

After appropriate discussion, the patient was taken to surgery, where a microlaryngoscopy with jet ventilation was performed. The anterior web was quite thin and was divided with microscissors. The posterior web was divided with a CO$_2$ laser. The patient was maintained on proton pump inhibitors postoperatively.

During a follow-up exam 2 weeks after surgery, the patient presented with dramatically improved breathing. Videostroscopy revealed normal vocal fold abduction and complete vocal fold closure. Vocal quality was judged to be near normal, with minimal to no dysphonia perceived. The patient did have bilateral granulomas that continued to improve with medical care (figure, B).

Glottic webs can occur both in the anterior and the less common posterior location. Although anterior webs can be congenital, the majority are acquired as a result of trauma to the vocal folds. This trauma can include bilateral surgery near the anterior commissure, endotracheal intubation, external trauma, radiation, etc. Typical symptoms of anterior webs are dysphonia, inability to speak loudly, possible exercise intolerance, and airway difficulties. A variety of techniques exist for repair of anterior webs, with the major hurdle being that of web reformation. Results can vary depending on the size, location, and thickness of the web.

Posterior glottic webs are most frequently caused by endotracheal intubation and related trauma and often cause airway-related symptoms. The treatment of glottic webs can vary dramatically, depending on the location and size of the web, the mobility of the cricoarytenoid joints, and the status of the subglottic airway.$^{12}$

References