Arytenoid dislocation following upper gastrointestinal endoscopy

A 46-year-old female teacher presented for upper gastrointestinal endoscopy. A standard Olympus endoscope (GIF H190, Olympus, Center Valley, Pennsylvania, USA) was used for evaluation of gastritis. After 12 hours, the patient developed hoarseness, throat pain, and swelling. A computed tomography (CT) scan, barium swallow, and laryngeal electromyography (LEMG) studies showed normal findings. Strobovideolaryngoscopy showed a higher left vocal cord with axis deviation and persistent glottal gap of 1 mm (**Fig. 1**).

After 2 months the patient underwent laryngoplasty with micronized dermis injection and reduction of the left arytenoid dislocation. Dysphonia gradually improved over 6 months with voice therapy.

Signs and symptoms of arytenoid dislocation include hoarseness, breathiness, vocal fatigue, aphonia, as well as dysphagia. Diabetes mellitus and renal failure can weaken the arytenoid joint [1], and use of airway tools such as a misplaced laryngoscope, laryngeal mask airways [2] and transesophageal echocardiography (TEE) probe [3] has also resulted in arytenoid dislocations. In the present case, the initial insertion of the gastroscope was not carried out under direct visualization, thus resulting in traumatic arytenoid dislocation. An unrecognized cricoarytenoid joint dislocation is often mistaken for vocal fold paralysis, and treatment is delayed. Direct laryngoscopy and CT can be useful in the diagnosis of patients with arytenoid dislocation. LEMG evaluates innervation of the laryngeal muscles, distinguishing between paralysis and dislocation. An invaluable tool for diagnosis is strobovideolaryngoscopy [4], which provides a magnified slow-motion view of the vocal cords.

Successful treatment is frequently predicated on early intervention. Voice therapy is only indicated when hoarseness has an etiologic diagnosis and is an important adjunct for patients [5]. Surgical correction is the treatment of choice, with botulinum toxin injections for laryngeal rebalancing. Gastroenterologists must add arytenoid dislocation to the list of potential complications that can occur with gastrointestinal endoscopy. Patients complaining of hoarseness or other neck symptoms after an upper gastrointestinal endoscopy should undergo upper airway evaluation for early diagnosis and treatment.

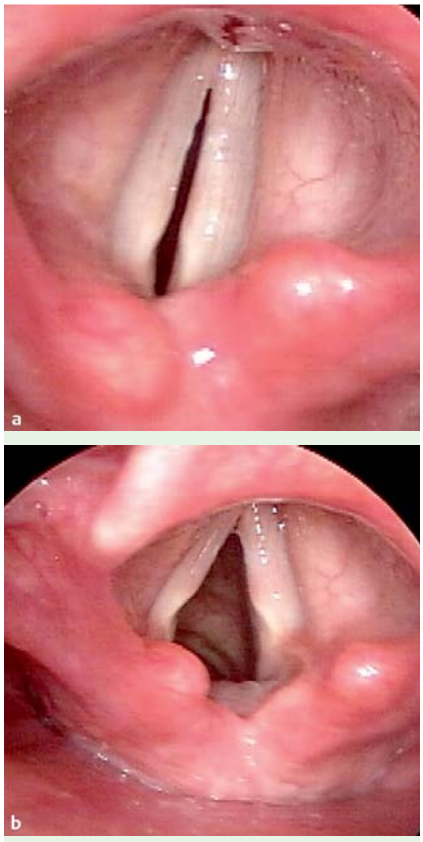

Fig. 1 **a** Rigid endoscopy during adduction showing asymmetric arytenoid closure with posterior gap in a patient with hoarseness, throat pain, and swelling. **b** Rigid endoscopy during inspiration showing the lateralized arytenoid.

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