

—Photogravure—

## Arytenoid Dislocation: A New Diagnostic and Treatment Approach

Hideto Saigusa, Takayuki Kokawa, Iichirou Aino, Chiharu Iwasaki,  
Tsuyoshi Nakamura and Toshiaki Yagi  
Department of Otolaryngology, Nippon Medical School

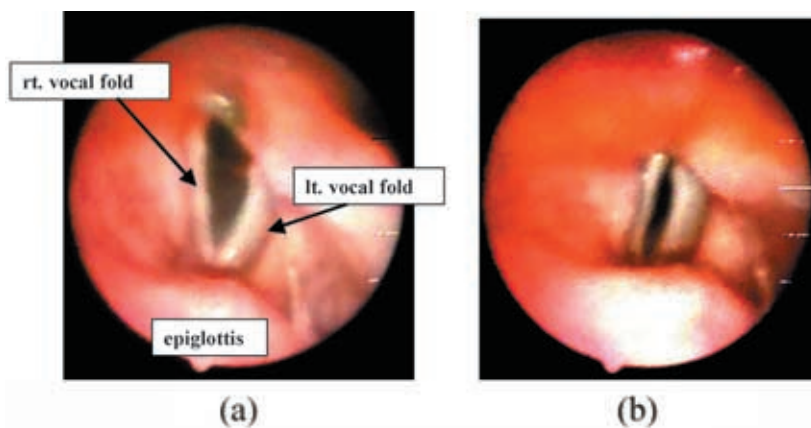


Fig. 1 Laryngoscopic view of dislocation of the left arytenoid cartilage (poor mobility of the left vocal fold and incompetent glottal closure are appreciated.): Similar findings in recurrent laryngeal nerve palsy.  
(a) during inspiration, (b) during phonation

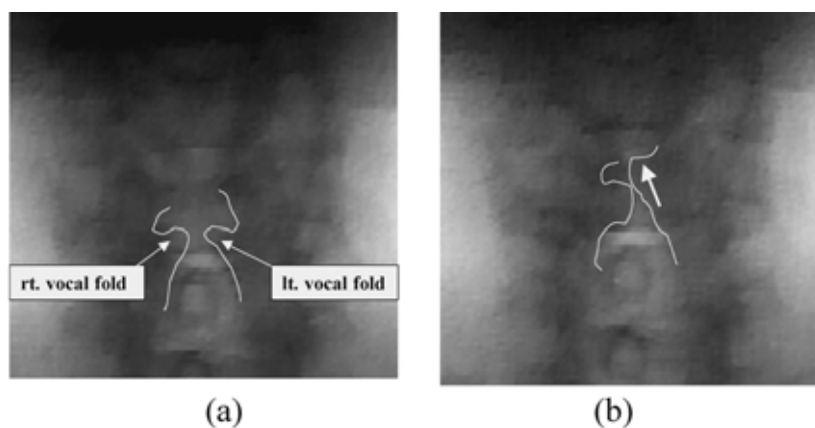


Fig. 2 Video-fluorography finding (upward hypermobility of the left vocal fold during phonation)  
(a) during inspiration, (b) during phonation

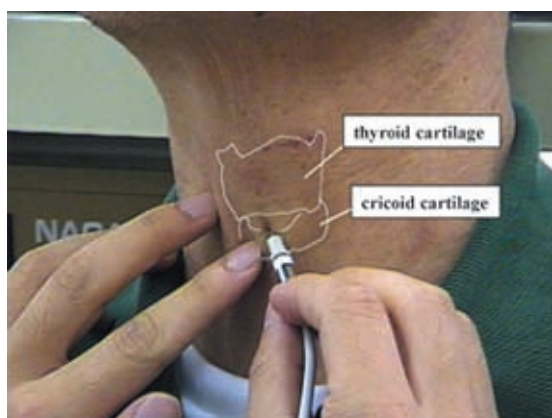


Fig. 3 The procedure for the electromyographic examination to the intrinsic laryngeal muscle via crico-thyroid membrane

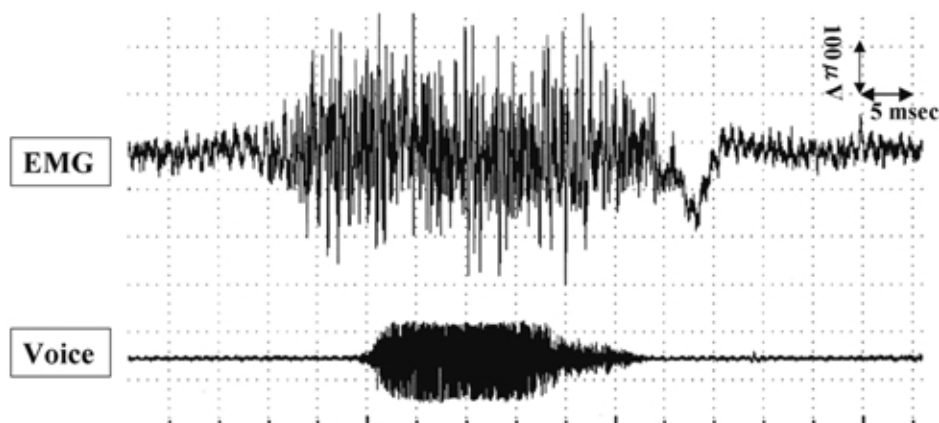


Fig. 4 Electromyography of the left thyro-arytenoid muscle during phonation (normal action potential in the case of the arytenoid dislocation).



Fig. 5 Closed reduction of the arytenoid dislocation under the direct laryngoscopy with the laryngeal forceps.

Dislocation (subluxation) of the arytenoid cartilage is an unusual injury that can occur following blunt trauma or medical instrumentation to the laryngeal cavity (e.g. endotracheal intubation)<sup>1</sup>. The signs and symptoms may include hoarseness, aphonia, dysphagia, aspiration, and odynophagia. The diagnosis has usually been made clinically and with the use of a laryngoscope. However, neurogenic arytenoids cartilage dysfunction such as recurrent laryngeal nerve palsy also presents very similar signs and symptoms and is difficult to rule out by routine evaluation (Fig. 1). Additionally, for those with actual arytenoid cartilage dislocation, the method of reduction has not been well established. The effective diagnostic protocol and the reduction technique used for arytenoid cartilage dislocation, which we originally developed, are described.

Our diagnostic protocol consists of video-fluorography and electromyography of the intrinsic laryngeal muscle during phonation<sup>23</sup>. Video-fluorography revealed upward hypermobility of the vocal fold on the dislocated side during phonation. Poor mobility was found on the vocal fold which was affected by recurrent laryngeal nerve palsy (Fig. 2). Electromyography of the intrinsic laryngeal muscle shows almost normal action potential in the case of arytenoid dislocation (Fig. 3, 4), while aberrant action potential was found for a subject with recurrent laryngeal nerve palsy.

The closed reduction of arytenoid cartilage dislocation was successfully performed with direct laryngoscopy under conscious sedation and local anesthesia without endotracheal intubation. Our technique for the reduction of arytenoid dislocation is performed with both posterior-lateral pressure to the arytenoid cartilage on the affected side by laryngoscopic forceps (Fig. 5) and opposing medial pressure on the cricoid cartilage percutaneously.

#### References

1. Sataloff RT: Arytenoid Dislocation. *Laryngoscope* 1994; 104: 1353-1361.
2. Saigusa H, et al: A Device for Arytenoid Subluxation in Thyroplasty (type I). *J Jpn Bronchoesophageal Soc.* 1996; 47: 539-544.
3. Hoffman HT, et al: Arytenoid Subluxation: Diagnosis and Treatment. *Ann Otol Rhinol Laryngol* 1991; 100: 1-9.