Low-grade myofibroblastic sarcoma (LGMS) of the larynx is a very rare disease. It occurs in the glottic, supraglottic, and subglottic regions, with glottic being the most common. Hoarseness is the initial symptom of LGMS in the glottis region, while dyspnea is usually associated with increased tumor size. Low-grade myofibroblastic sarcoma in the supraglottic and subglottic regions usually manifests as throat pain, progressive dysphagia, foreign body sensation, cough, and laryngeal perichondritis. The tumor looks like polypoid mass with smooth surface, broad base, and clear boundary at its early stage. It is easily misdiagnosed as a benign tumor, which results in delayed treatment.

The patient was a 74-year-old male who was treated in our hospital due to progressive hoarseness without obvious cause that lasted over 10 months. Laryngoscopy revealed that there was a dark, red mass on the anterior one-third of the left vocal fold which was smooth, with clear boundary, broad base (Figure 1A), and vocal fold movement was normal. The tumor was misdiagnosed as “vocal fold polyp,” thus biopsy was not performed. No treatment was prescribed because the hoarseness was not severe.

Two months later, the patient returned due to worse hoarseness. Laryngoscopy showed that there was a dark, red mass on the anterior one-third of the left vocal fold which was smooth, with clear boundary, broad base (Figure 1B), and vocal fold movement was normal. The tumor was misdiagnosed as “vocal fold polyp,” thus biopsy was not performed. No treatment was prescribed because the hoarseness was not severe.

Twelve months later, the patient returned complaining about worsening hoarseness combined with progressive dyspnea and aggravated dyspnea following physical (talking) activities. Laryngoscopy indicated a large tumor on the left vocal fold, occupying almost the whole length of the left vocal fold, including the anterior commissure and the laryngeal ventricle. The tumor size was about 2.5 cm × 1.5 cm with unclear bounds and a smooth surface. Necrosis was present on some of the surface, and left vocal fold movement was restricted (Figure 1C).

A vertical laterofrontal subtotal laryngectomy was performed under general anesthesia. The tumor was completely resected with a 5-mm margin. The resection included the left vocal fold, tissue of the paraglottic space, the left laryngeal ventricle, part of the left ventricular bands, part of the subglottic tissue, the left vocal process, the anterior commissure, and the front one-third of the right vocal fold. The laryngeal ventricle was repaired by sternohyoid myofascial flap.

Frozen sections of the surgical margins and basal tissues were free of tumor. Postoperative, pathological examination confirmed that there was no tumor in the surgical margins and basal tissues. The patient did not undergo radiation or...
chemotherapy after the surgery because the resection was complete and there was no lymph node metastases. The patient was followed up for 23 months after the operation and no local recurrence was found (Figure 2).

It is important that tumor is completely resected during the first surgery. The tumor can be resected using CO2 laser endoscopically if the tumor is small,4 which is important to preserve laryngeal function. Open surgery can be used if the tumor is large and the invasion extensive. Total laryngectomy can be performed if infiltrative growth of tumor invades thyroid cartilage or if partial laryngectomy cannot be performed.3,5

Laryngeal LGMS was not sensitive to radiotherapy and chemotherapy. There were few studies that reported on performing radiotherapy and chemotherapy after surgery. However, postoperative radiotherapy and chemotherapy remain controversial.6,7 We believe that selection of radiotherapy and chemotherapy should depend on whether the tumor was completely resected, on the extent of the invasion, and on the indications of poor prognosis.3,8 Thus far, extensive and complete resection of the tumor is the preferred treatment.6,7 Regular postoperative follow-up to detect recurrence as early as possible is essential.

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**References**
1. Covello R, Licci S, Pichiet B, et al. Low-grade myofibroblastic sarcoma of the larynx. Int J Surg Pathol. 2011;19(6):822-826.
2. Ni C, Xu YY, Zhou SH, Wang SQ. Differential diagnosis of inflammatory myofibroblastic tumor and low-grade myofibroblastic sarcoma: two cases reports with a literature review. J Int Med Res. 2011;39(1):311-320.
3. Schroder S, Stengel B, Radtke A, Kleemann D. Myofibroblastic sarcoma of the larynx: a case report and review. HNO. 2009;57(12):1311-1316.
4. Friedman AD, Burns JA, Lutch MJ, Zeitels SM. Submucosal neoplasms of the laryngeal introitus. J Laryngol Otol. 2012;126(7):706-713.
5. Ya-ling L, Shu-cai F, Min Z, Shu-hao W. Low-grade myofibroblastic sarcoma of head and neck: a case report and review of literature. J Clin Otorhinolaryngol Head Neck Surg. 2010;24(2):84-85.
6. Demarosi F, Bay A, Moneghini L, Carrassi A. Low-grade myofibroblastic sarcoma of the oral cavity. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2009;108(2):248-254.
7. Jay A, Piper K, Farthing PM, Carter A. Low-grade myofibroblastic sarcoma of the tongue. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2007;104(5):e52-58.
8. Vlad D, Albu S. Low-grade myofibroblastic sarcoma of the larynx. J Craniofac Surg. 2016;27(3):e270-271.

![Figure 2](image.png)

**Figure 2.** The larynx visited by electronic laryngoscopy followed up for 23 months after the operation.

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