Localized Laryngeal Amyloidosis—Transoral Laser Excision

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Amyloidosis is an uncommon indolent lesion that may be associated with multifocal disease, local or systemic. Although localized amyloidosis is rare, it frequently involves the larynx.¹⁻³ Otolaryngologists should be aware of its presentation, diagnosis, and management. We reviewed 3 cases of localized laryngeal amyloidosis. The lesions were located on the both arytenoid apices, the left aryepiglottic fold, and both vocal folds invading the subglottis. One patient had voice change, and other 2 patients were diagnosed incidentally at a local clinic and had no laryngeal symptoms. The lesions were resected with a carbon dioxide laser endoscopically. The 3 cases of localized laryngeal amyloidosis are summarized below.

A 64-year-old man and a 58-year-old woman presented to our clinic with an incidentally detected laryngeal masses. Both patients were relatively in good health with no history of previous illness. They had no laryngeal symptoms such as hoarseness, stridor, voice change, or dyspnea. The laryngeal lesions were symmetrical yellowish masses on both apices of the arytenoid cartilages (Figure 1A) and smooth-surfaced yellowish mass on left aryepiglottic fold (Figure 1B). The vocal folds were mobile and appeared normal. There were no other anomalies such as lymphadenopathy or splenomegaly. The masses were resected with a carbon dioxide laser using suspension laryngoscopy. The excised specimen was confirmed as amyloidosis histopathologically. Additional laboratory studies (serum and urine electrophoresis, abdomen ultrasonography, β2 microglobulin) were performed to rule out systemic amyloidosis and plasma cell dyscrasias. All results were negative. Two years later, endoscopy revealed no recurrence. A 35-year-old woman presented with a laryngeal mass on both the true vocal folds extending into the subglottic area, with a yellowish irregular surface (Figure 1C). The vocal folds were mobile, but she had severe voice change for 2 years, but no stridor or dyspnea. There were no other abnormalities such as lymphadenopathy and splenomegaly. The masses were resected with a carbon dioxide laser using suspension laryngoscopy. The voice outcome after laser surgery was not good, but the voice was better than before surgery. Histopathologic analysis with Congo red stain and electron microscopy confirmed the diagnosis of amyloidosis. Histologically, acellular, eosinophilic, amorphous materials were noted below surface epithelium. Congo red stain under polarized microscopy showed apple-green birefringence. And electron microscopy revealed the characteristic linear, nonbranching fibrillar amyloid materials (Figure 1D). There was no recurrence of amyloidosis during 8 months of follow-up.

There is no effective medical treatment for laryngeal amyloidosis. Surgical treatment is the treatment of choice of laryngeal amyloidosis. Recent treatment with low-dose radiation remains controversial, and considerable time will be required....

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to determine the efficacy and long-term consequences of this approach.4 We used a carbon dioxide laser. However, it is still controversial whether laser surgery is more effective in terms of minimizing scar formation than conventional surgery.

Studies with long follow-up with amyloidosis of the larynx and trachea have reported that none of the patients developed systemic amyloidosis, B-cell lymphoma, or multiple myeloma.5-7 Nevertheless, systemic workup is considered obligatory in every patient. Our patients had no lymphadenopathy, tender bones, and splenomegaly, which are suggesting the possibility of systemic amyloidosis.8 Serum and urine electrophoresis and abdominal ultrasonography were normal pattern. The prognosis of systemic amyloidosis is worse than the localized form.5

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