

# Laryngeal Amyloidosis Mimicking Glottic Cancer: A Case Report<sup>1</sup>

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Amyloidosis is a slowly progressive, benign disease that is characterized by the extracellular deposition of fibrillar proteins in many different tissues and organs throughout the body. Primary amyloidosis can be subdivided into the systemic and localized forms. The localized form is less common than the systemic form and the larynx is the most frequently affected site. The importance of laryngeal amyloidosis lies in its possible confusion with glottic cancer because of the clinical feature. We report here on a case of laryngeal amyloidosis in a 47-year-old man who suffered from progressive dyspnea.

**Index words :** Amyloidosis  
Laryngeal disease

Approximately 9% to 15% of the cases amyloidosis are localized and amyloidosis frequently involves the head and neck. The larynx is the most frequently affected site (61%), followed by the oropharynx (23%), trachea (9%), orbit (4%) and nasopharynx (3%). Although the amyloid deposits are submucosal, the importance of laryngeal amyloidosis lies in its possible diagnostic confusion with glottic cancer.

## Case Report

A 47-year-old man was transferred from another clinic with a one year history of progressive dyspnea that had

recently deteriorated. He was a heavy drinker (1 bottle of whisky/day) and smoker (1 pack/day).

On the direct laryngoscopy, polypoid masses with smooth surfaces were found involving both the true and false vocal folds (Fig. 1A). We suspected the man was suffering from vocal cord carcinoma.

The CT scan of neck showed diffuse thickening involving both the true and false vocal cords without involvement of the anterior commissure and paraglottic space (Fig. 1B). MRI of the neck was performed using a 1.5T imager, and this showed polypoid soft tissue thickening with hypointensity along the true and false vocal cords on the axial T1 (Fig. 1C) and T2-weighted images (Fig. 1D). After infusion of gadolinium contrast agent, this lesion showed homogenous enhancement (Fig. 1E). There was no evidence of destruction of the underlying thyroid cartilage or that the cervical lymph nodes were enlarged.

Biopsy was performed at the true vocal cord lesion. The histopathologic results revealed submucosal amyloid deposition with positive congo red staining. The masses involving the both the false and true vocal cords

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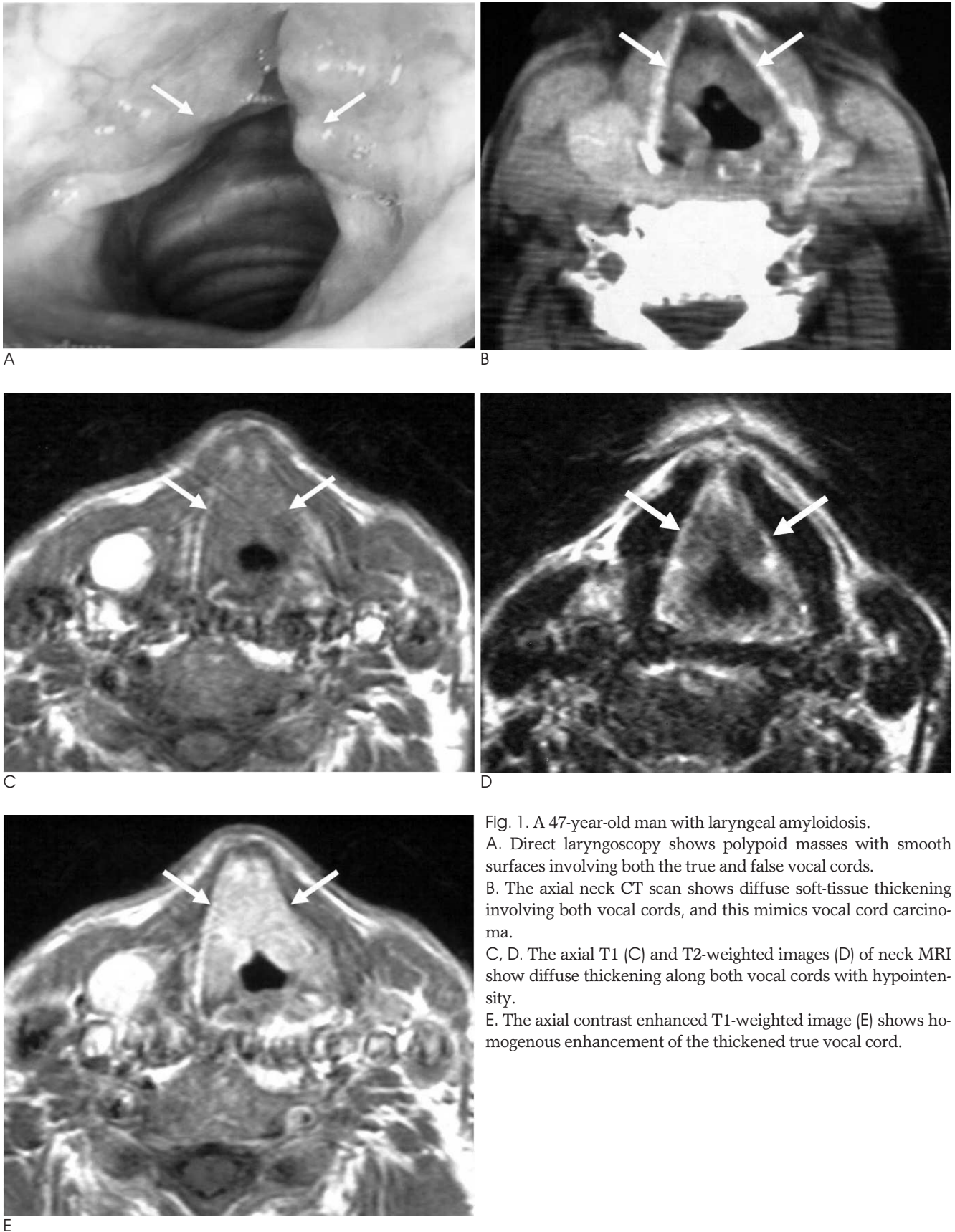


Fig. 1. A 47-year-old man with laryngeal amyloidosis.  
 A. Direct laryngoscopy shows polypoid masses with smooth surfaces involving both the true and false vocal cords.  
 B. The axial neck CT scan shows diffuse soft-tissue thickening involving both vocal cords, and this mimics vocal cord carcinoma.  
 C, D. The axial T1 (C) and T2-weighted images (D) of neck MRI show diffuse thickening along both vocal cords with hypointensity.  
 E. The axial contrast enhanced T1-weighted image (E) shows homogenous enhancement of the thickened true vocal cord.

were resected by performing carbon dioxide laser resection and the patient was discharged without complication.

### Discussion

The localized form of amyloidosis is less common (10-20%) than the systemic form. The larynx is the most common site of involvement in the upper aerodigestive tract (1-6). The most common site of involvement is the true vocal cords. The false vocal cords (the aryepiglottic folds) and the subglottic region are less commonly involved. The lesions are described as well-defined, submucosal soft-tissue masses, with no or only a slight degree of contrast enhancement. These lesions may also appear as more diffuse intralaryngeal soft tissue infiltration or as a circumferential glottis or subglottic soft tissue thickening, and this is possibly associated with a deeper submucosal component. Areas of localized calcification within the mass are occasionally present (7, 8).

MR imaging demonstrates the specific features of amyloidosis. The amyloid deposit have intermediate T1-weighted signal intensity and low T2-weighted signal intensity are similar to that of skeletal muscle on MR imaging, and this because the amyloid deposits occur as protein fibrils in a parallel, sheet-like configuration that is similar to the organization of skeletal muscle fibers (8).

In our case, the laryngeal amyloidosis presenting as diffuse thickening of the true and false vocal cords was confused with glottic cancer. However, the smooth surface of the lesion seen on the direct laryngoscopy due to

the submucosal location and the distinctive hypointensity on the T2-weighted image are helpful findings for making the differential diagnosis. Yet increased signal intensity on T2-weighted images has been also reported (9).

The treatment for localized laryngeal amyloid deposits is surgery using microendoscopic carbon dioxide laser resection (6).

In summary, we report on the imaging of laryngeal amyloidosis that involved the vocal cords. Awareness with the radiologic and clinical characteristics of this disease can help ensure arriving at an accurate diagnosis for patients suffering with laryngeal amyloidosis.

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## 성문암과 유사한 모양을 보이는 후두 아밀로이드증: 증례 보고<sup>1</sup>

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아밀로이드증은 특징적으로 섬유성단백질이 전신 조직과 기관의 세포 외 침착을 하는 양성 질환으로 서서히 진행된다. 일차성 아밀로이드증은 전신형과 국소형으로 나눌 수 있으며 국소형이 전신형보다 드물고 후두가 가장 흔하게 침범되는 기관이다. 후두 아밀로이드증은 임상증상이 성문암과 비슷하여 진단에 혼동을 줄 수 있다. 이에 저자들은 진행하는 호흡곤란을 주소로 내원한 47세 남자에서 발생한 후두 아밀로이드증의 증례를 보고 한다.

