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### Pharyngolaryngeal paralysis in a patient with pharyngeal tuberculosis

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#### ABSTRACT

Pharyngeal tuberculosis is a rare disease, and its commonly reported symptoms include sore throat, dysphagia, and throat discomfort. The dysphagia in pharyngeal tuberculosis cases is not due to pharyngolaryngeal paralysis but due to odynophagia. Herein, we describe the first case of dysphagia caused by pharyngolaryngeal paralysis secondary to pharyngeal tuberculosis. An irregular mass at the right nasopharynx was detected in a 57-year-old female patient, along with dysphagia and hoarseness. She had poor right soft palate elevation, inadequate right velopharyngeal closure, poor constrictor pharyngus muscle contraction, and an immobilized right vocal cord, which collectively indicate right pharyngolaryngeal paralysis. Pathological examination and culture testing revealed pharyngeal tuberculosis. She was diagnosed with pharyngolaryngeal paralysis secondary to pharyngeal tuberculosis. The pharyngolaryngeal paralysis resolved after beginning anti-tuberculous treatment. Right pharyngolaryngeal paralysis was attributed to glossopharyngeal and vagus nerve impairment in the parapharyngeal space. Prior reports indicate that peripheral nerve paralysis, including recurrent laryngeal nerve paralysis caused by tuberculous lymphadenitis, often recovers after anti-tuberculous treatment. Pharyngeal tuberculosis rarely causes dysphagia and hoarseness attributable to pharyngolaryngeal paralysis. The neuropathy may recover after anti-tuberculous treatment. Pharyngeal tuberculosis is a new potential differential diagnosis in pharyngolaryngeal paralysis.

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### 1. Introduction

Extrapulmonary tuberculosis occurs far less frequently than pulmonary tuberculosis. The most common sites of extrapulmonary tuberculosis are the pleura, lymph node, meninges, and bone. The incidence of pharyngeal tuberculosis is reportedly 0.6% in patients with tuberculosis [1]. The primary symptoms of pharyngeal tuberculosis are sore throat, throat discomfort, dysphagia, fever, odynophagia, cervical swelling, and a foreign body sensation [1]. In previous case reports, the dysphagia was not due to pharyngolaryngeal paralysis but due to odynophagia. Acute pharyngolaryngeal paralysis is often reported in cervical cancer, viral infection (e.g., varicella zoster virus), and central nervous disorders (e.g., stroke, or intracranial hemorrhage). However, pharyngeal and laryngeal paralysis accompanied with pharyngeal and/or laryngeal tuberculosis has not reported to date. We report the first case of pharyngolaryngeal paralysis caused by pharyngeal

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http://dx.doi.org/10.1016/j.anl.2014.08.020 0385-8146/© 2014 Elsevier Ireland Ltd. All rights reserved. tuberculosis. And the clinical features of neuroparalysis due to tuberculosis are also discussed.

#### 2. Case report

A 57-year-old woman was evaluated for a 4-month history of bilateral cervical multiple mass, along with dysphagia and hoarseness beginning 1 week before presentation. Neither fever nor cough was noted, and she had no history of pulmonary tuberculosis or HIV infection. ENT fiberscopy examination revealed erosion and mucoid discharge in the nasal cavity and right nasopharyngeal swelling (Fig. 1a) accompanied by right pharyngolaryngeal paralysis. An irregular, coarse, and inflamed mass was identified at the right nasopharynx. Elevation of the right soft palate was poor, and the right vocal cord was fixed in the paramedian position, although the left pharyngolarynx remained mobile (Fig. 1b and c). The other cranial nerve functions were intact, and the chest radiographs were normal.

A fluoroscopy revealed poor pharyngeal contraction, delayed laryngeal elevation, vallecula and periform recess pooling, and

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**Fig. 1.** ENT fiberscopy examination revealed an irregular, coarse, and inflamed mass at the right nasopharynx (a). The right vocal cord was fixed in the paramedian position, and periform recess showed pooling in right side predominance (b and c). A fluoroscopy using 3 ml of iopamidol (frontal view, d and e; lateral view, f–j) showed the oral stage of swallowing (f) and the pharyngeal stage (g–i) indicating delayed laryngeal elevation (g), poor pharyngeal contraction (i), vallecula and periform recess pooling (e and j), and aspiration (i and j). Upper esophageal sphincter opening was good (d and h).

aspiration (Fig. 1d–j). A contrast-enhanced CT scan showed right torus tubarius swelling (Fig. 2a, arrow), a low-density area in the right oropharynx (Fig. 2b, arrowhead), and bilateral cervical lymph nodes swelling (Fig. 2c). Enhanced T1-weighted image of MRI showed high intensity area of the right nasopharynx (Fig. 2d, arrow). On pathological examination, the mass from the nasal cavity and right nasopharynx was diagnosed as an epithelioid cell granuloma, and that from the right cervical lymph node as a caseous epithelioid cell granuloma. Serologic tests were negative for IgM and IgG antibodies against varicella zoster virus, herpes



**Fig. 2.** Contrast-enhanced CT scan shows right torus tubarius swelling (arrow)(a) and a low-density area (arrowhead) at the right oropharynx (b). The bilateral cervical lymph nodes are also swollen (contrast-enhanced CT) (c). Enhanced T1-weighted MRI reveals a high-intensity area (arrow) at the right oropharynx (d).

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