



## CASE REPORT

# Ultrasound-guided Core Needle Biopsy of Advanced Hypopharyngeal Cancer

Chun-Nan Chen <sup>1,2,3,4</sup>, Tsung-Lin Yang <sup>1,2,5\*</sup>

<sup>1</sup> Department of Otolaryngology, National Taiwan University Hospital, Taipei, Taiwan, <sup>2</sup> National Taiwan University College of Medicine, Taipei, Taiwan, <sup>3</sup> Department of Otolaryngology, National Taiwan University Hospital Hsin-Chu Branch, Hsin-Chu, Taiwan, <sup>4</sup> Graduate Institute of Clinical Medicine, National Taiwan University College of Medicine, National Taiwan University, Taipei, Taiwan, and <sup>5</sup> Research Center for Developmental Biology and Regenerative Medicine, National Taiwan University, Taipei, Taiwan

Received 22 January, 2012; accepted 5 June, 2012

### KEY WORDS

core needle biopsy,  
hypopharyngeal  
cancer,  
ultrasound

Advanced hypopharyngeal cancer is frequently diagnosed late and has a poor outcome. The diagnosis of hypopharyngeal cancer is usually based on the pathological examination of samples harvested by endoscopic approaches. In patients with compromised airway and submucosal tumor extension, the endoscopic approach of diagnosis is infeasible. Here, we explored an alternative diagnostic method of hypopharyngeal cancer using ultrasound-guided core needle biopsy (USCB) in a patient who was not indicated for endoscopic and surgical interventions. The whole procedure was done smoothly with adequate tissue sampling for pathological diagnosis of hypopharyngeal cancer. Our experience suggests that USCB is an efficient, safe, and minimally invasive method that could be of much value in the diagnosis of advanced hypopharyngeal cancer.

© 2012, Elsevier Taiwan LLC and the Chinese Taipei Society of Ultrasound in Medicine.

Open access under [CC BY-NC-ND license](http://creativecommons.org/licenses/by-nc-nd/4.0/).

## Introduction

Advanced hypopharyngeal cancer has the poorest outcome among the head and neck malignancies [1]. Delayed

diagnosis significantly results in treatment difficulty and leads to a poor prognosis. However, due to its obscure anatomical location, hypopharyngeal cancer is usually identified by computed tomography (CT), magnetic resonance imaging, rigid or flexible endoscopy, and intraluminal or transcutaneous ultrasonography. In most cases, tumor samples can be harvested using endoscopic approaches. However, it is not appropriate for the elderly or infirm patients with compromised airway. Tracheotomy is usually

\* Correspondence to: Dr. Tsung-Lin Yang, Number 1, Section 1, Jen-Ai Road, Taipei 100, Taiwan.

E-mail address: [yangtl@ntu.edu.tw](mailto:yangtl@ntu.edu.tw) (T.-L. Yang).

required to facilitate further endoscopic examination and tissue sampling. Moreover, hypopharyngeal cancer with submucosal extension always has normal-appearing mucosal linings. It renders endoscopic biopsy difficult to perform because of indiscernible tumor locations, so that repeated anesthesia and endoscopic procedures are required [2]. To overcome these hurdles, a biopsy procedure under guidance regarding the tumor location is appealing. Ultrasonography has been demonstrated to be competent in delineating hypopharyngeal cancer [3]. It is likely that ultrasound-guided biopsy of hypopharyngeal cancer is a useful alternative for diagnosis. In this study, the feasibility of ultrasound-guided core needle biopsy (USCB) in tissue sampling of advanced hypopharyngeal cancer is demonstrated and discussed.

## Case report

This patient was an 81-year-old male with an anterior neck mass. The mass was firm and fixed, and measured  $3 \times 3$  cm in size. Several enlarged cervical lymph nodes were scattered at the left levels II and III. The largest lymph node was in the left level II, and measured  $3.3 \times 2.2$  cm. He had pneumoconiosis and poor pulmonary function. Clinically, he displayed hoarseness and dysphagia with progressive choking that lasted for months. A complete evaluation in the otolaryngological field revealed left vocal palsy with a smooth mucosal bulge at the left pyriform sinus. CT revealed a huge hypopharyngeal tumor invading the thyroid cartilage (Fig. 1). Blood examination revealed a normal coagulation profile (platelet:  $297 \times 10^3/\mu\text{L}$ , prothrombin time: 10.5 seconds, international normalized ratio: 1.0). Because of poor pulmonary function and impending compromised airway, tracheotomy was suggested in order



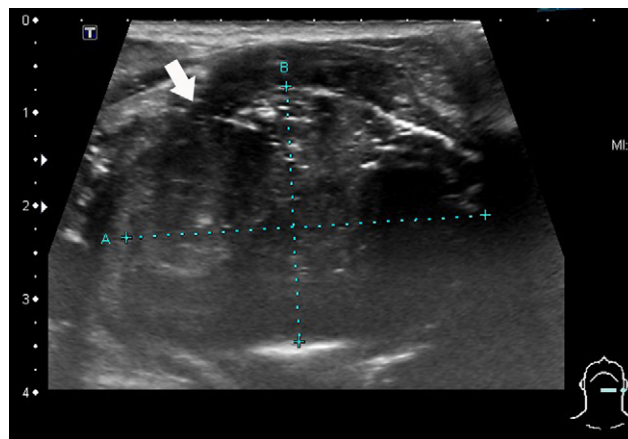
**Fig. 1** Computed tomography scan demonstrating an advanced hypopharyngeal tumor (arrow) invading the left lamina of the thyroid cartilage and compressing the airway.

to perform a laryngomicroscopic biopsy, but the patient refused. In light of the clinical jeopardy, a percutaneous USCB was attempted. The ultrasonography of the head and neck field was performed with a real-time scanner (Toshiba Aplio XG SSA790; Toshiba Medical Systems, Tochigi-ken, Japan) using a 12-MHz linear probe, and the heterogeneously echogenic tumor invading and destroying the hypopharyngeal and laryngeal wall, and thyroid cartilage was demonstrated (Fig. 2). A chaotic vascular pattern was noted in the color Doppler duplex sonogram (Fig. 3). Under local anesthesia and ultrasound guidance, an 18-gauge (G) core-biopsy needle (Temno Evolution Biopsy Devices; Cardinal Health Inc., Dublin, OH, USA) with a 20-mm needle throw length was used for specimen harvest. Only one needle pass was performed (Fig. 4). The intervention was completed within 5 minutes without significant bleeding. There was no airway complication either during or after the procedure. Pathologically, the tumor was squamous cell carcinoma.

## Discussion

Hypopharyngeal cancer is notorious for its poor clinical outcome. Delayed diagnosis is common because of its subtle symptoms during the early stage. Submucosal extension usually occurs at diagnosis, even with small mucosal changes [2]. Unfortunately, the endoscopic approach for tissue sampling usually cannot get adequate submucosal components for diagnosis.

To avoid the misdiagnosis of hypopharyngeal cancer, correctly identifying the tumor location to harvest adequate tumor samples is imperative. CT and magnetic resonance imaging are capable of demonstrating tumor extension, although pathological examination remains the diagnostic standard of hypopharyngeal cancer. Recently, the narrow band imaging system was considered an illuminating method for tumor identification by imaging mucosal capillaries. Narrow band imaging combined with magnifying endoscopy is another important option to detect superficial hypopharyngeal cancer [4]. However, endoscopic biopsy remains unsuccessful in detecting deep-seated submucosal tumors. Furthermore, for the elderly patients and those



**Fig. 2** Ultrasonography revealing a heterogeneously echogenic tumor with hypopharyngeal and laryngeal extensions. The thyroid cartilage was also destroyed (arrow).

Download English Version:

<https://daneshyari.com/en/article/4233133>

Download Persian Version:

<https://daneshyari.com/article/4233133>

[Daneshyari.com](https://daneshyari.com)