

Transmucosal Core Needle Biopsy: A Novel Diagnostic Approach to Oral and Oropharyngeal Lesions

Jens Pfeiffer, MD,* Wolfgang Maier, MD,† Carsten C. Boedeker, MD,‡
and Gerd J. Ridder, MD§

Purpose: Oral and oropharyngeal tumors have often been characterized by a deep submucosal growth pattern under an intact mucous membrane. This will be particularly true for lesions of the tongue and could be associated with relevant difficulties regarding diagnosis and treatment planning. We hypothesized that the transoral transmucosal application of a core needle biopsy (CNB) for lesions of the tongue, the base of the tongue, and the floor of the mouth could be of considerable clinical usefulness for many patients. It has only previously been described in single cases and has not yet been separately discussed.

Material and Methods: We report on the novel transoral use of CNB during rigid endoscopy with the patient under general anesthesia, with an emphasis on lesions of the tongue. A series of cases and illustrative patients are presented.

Results: Transmucosal CNB was accurate and of considerable clinical usefulness in all cases. The relevant advantages of this technique compared with conventional biopsy using biopsy forceps and transmucosal fine needle aspiration are presented.

Conclusions: The transoral transmucosal approach to the submucosal space of the oral cavity and the oropharynx has further extended the field of application of CNB. In selected patients, this CNB approach offers essential diagnostic benefits, in particular, for tumors of the tongue.

© 2014 American Association of Oral and Maxillofacial Surgeons

J Oral Maxillofac Surg 72:1594-1600, 2014

Tumors of the tongue, the base of the tongue, and the floor of the mouth are among the most common neoplasms in the head and neck and have often been characterized by a submucosal growth pattern deep under an intact mucous membrane.¹⁻³ The submucosal tumor growth in this anatomic region has been associated with several problems. First, the tumor can escape detection by clinical examination. Second, the tumor's dimensions could be difficult to assess using clinical examination alone. In particular, a midline-expanding growth would be a key point for treatment planning. Third, tissue sampling, which is essential for therapeutic decision-making, could produce false-negative results. This can occur despite possible univocal results from radiologic examinations, but also in

the case of cervical lymph node metastasis from an unknown primary and occult submucosal tumor growth at the base of the tongue.¹⁻⁵ Currently, core needle biopsy (CNB) is an established technique for tissue sampling and has been used very successfully at many anatomic locations throughout the human body. In contrast, in the head and neck, this technique was given little attention for a long period. However, in recent years, it has been increasingly applied for the assessment of cervicofacial masses, with excellent results.⁶⁻⁸ We have described the novel transoral, transmucosal application of CNB for submucosal lesions of the body and base of the tongue. We have highlighted the specific advantages of this technique in certain clinical situations.

Received from Department of Otorhinolaryngology-Head and Neck Surgery, University of Freiburg, Freiburg, Germany.

*Doctor.

†Professor.

‡Professor.

§Professor.

Address correspondence and reprint requests to Dr Pfeiffer: Department of Otorhinolaryngology-Head and Neck Surgery,

University of Freiburg, Killianstrasse 5, Freiburg 79106, Germany; e-mail: jens.pfeiffer@uniklinik-freiburg.de

Received January 23 2014

Accepted February 11 2014

© 2014 American Association of Oral and Maxillofacial Surgeons

0278-2391/14/00233-X\$36.00/0

<http://dx.doi.org/10.1016/j.joms.2014.02.022>

Materials and Methods

The procedures were performed in accordance with the guidelines of the Declaration of Helsinki, 1975, as revised in 1983, and the local institutional review board (ethics committee, Albert Ludwigs University of Freiburg) approved the study protocol. Transoral CNB of oral and oropharyngeal lesions was always performed as an in-patient procedure with the patient under general anesthesia during rigid endoscopy. All the patients provided informed consent for rigid endoscopy and transmucosal tissue sampling before the procedure. A coagulation screening test was routinely performed. Before undergoing rigid endoscopy and transoral CNB, each patient underwent a careful clinical examination of the upper aerodigestive tract. The clinical examination included flexible endoscopy and transoral palpation to evaluate the dimensions of an obvious or suspected tumor or for signs of tumor growth in the case of cervical lymph node metastasis with an unknown primary. Each patient also underwent a careful ultrasound examination of the head and neck, including the deep-seated oral and oropharyngeal region as far as these structures could be visualized using ultrasonography. Additional radiologic examinations, including computed tomography (CT), magnetic resonance imaging (MRI) and fluoro-2-deoxyglucose positron emission tomography (PET) or PET-CT, were performed, depending on their availability, the transmucosal CNB indications, and the patient's condition. After routine rigid endoscopy, a mouth spreader was inserted to expose the tongue and floor of the mouth and facilitate exposure of the mobile tongue. The intended puncture site

was exposed and CNB performed using a freehand technique without a local anesthetic. In some cases, a small incision of the mucous membrane was performed to facilitate needle insertion. Intraoral ultrasonography was not routinely performed, but can be used to guide the CNB procedure. We used a spring-loaded semiautomatic biopsy gun (Bard Magnum, Bard, Covington, GA) with side-notch needles 10 cm long and of different diameters (12 to 18 gauge equaling 2.05 to 1.02 mm) and a needle throw usually of 15 mm (Fig 1A,B). Multiple specimens were obtained, depending on the biopsy indication and the quality of the core specimens assessed by inspection. After the procedure, the puncture site was manually compressed for a few minutes. The mouth spreader was removed, and general anesthesia was withdrawn if no signs of prolonged bleeding, hematoma, or swelling were found.

Results

The clinical characteristics of 6 patients who underwent transmucosal CNB of the tongue are listed in Table 1. This new procedure was initially only performed in a small number of selected patients as a preliminary study and not routinely. We always obtained high-quality tissue cores without crushing artifacts that were adequate for histologic and immunohistochemical examinations. In 4 patients, CNB revealed squamous cell carcinoma (SCC), and the patients were referred for chemoradiotherapy or palliative care owing to the extensive tumor dimensions or recurrent disease. The data from the other 2 patients have been summarized as illustrative cases. Evaluated during the

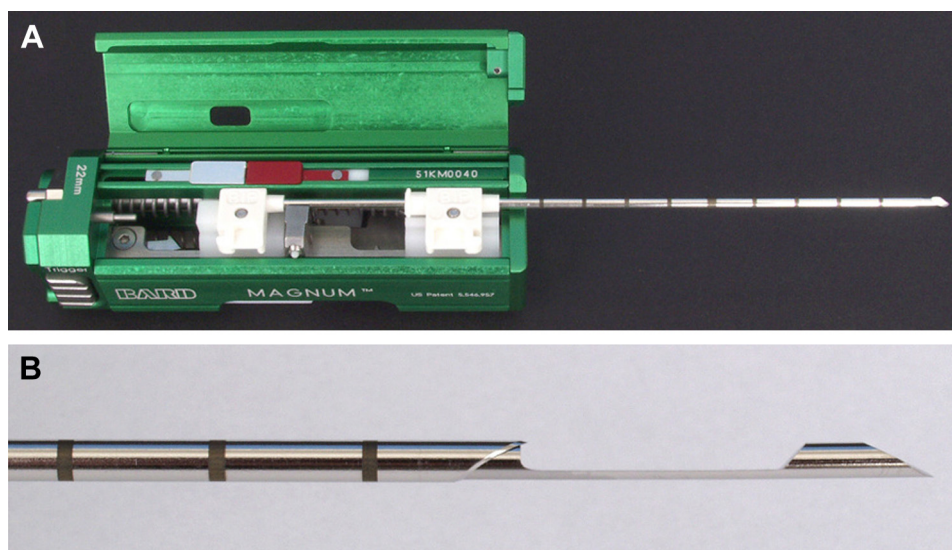


FIGURE 1. A, The opened spring-loaded core needle biopsy instrument after the insertion of a side-notch needle system. B, When the biopsy gun is fired, the inner trocar of the needle system is thrust forward, followed immediately by the forward thrust of the outer cannula, which slices off and retains a core of the tissue in the sample notch of the inner cannula.

Download English Version:

<https://daneshyari.com/en/article/3156278>

Download Persian Version:

<https://daneshyari.com/article/3156278>

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