



ORIGINAL CONTRIBUTION

Office-based laryngopharyngeal biopsy

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KEYWORDS

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Traditionally, laryngopharyngeal biopsies have been performed in the operating room under general anesthesia. However, with recent improvements in techniques of obtaining laryngeal anesthesia and with the quality of flexible endoscopes, many of these procedures can be performed under local anesthesia in an office-based setting. This article explores different techniques for performance of office-based laryngopharyngeal biopsies.

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Laryngology has its roots in unsedated office-based interventions during which a surgeon used a mirror to visualize the larynx in order to biopsy and remove lesions such as papillomas and polyps.¹ Over the recent past, office based interventions^{2,3} have become more commonplace in the field of Laryngology, owing to a number of factors including the advent of distal-chip endoscopes, developments of small tools such as flexible biopsy forceps and flexible laser fibers,⁴ improvements in ability to deliver anesthesia to the laryngopharynx safely.

In-office biopsy allows a surgeon to biopsy lesions with the patient awake and unsedated using only topical anesthesia. Anatomical locations within the laryngopharynx that are amenable to in-office biopsy include the base of tongue, piriform sinus, supraglottis, glottis, and subglottis. Certain considerations should be made when performing biopsies in office instead of the operating room. Because office-based biopsies are performed using smaller instruments, occasionally an inadequate specimen is obtained for analysis. For this reason multiple biopsies should be performed and care should be taken to obtain as deep as biopsies as possible. For pedunculated lesions, a biopsy should be performed on the base of the lesion so that basement membrane is included in the specimen.

Successful performance of this procedure depends on proper patient preparation obtaining adequate laryngopharyn-

geal anesthesia. Before instrumentation, the patient is adequately counseled regarding each of the procedural steps. The patient should be instructed that the procedure typically lasts 5-10 minutes; discomfort is likely within the nose and throat; and anesthesia may provide a sensation that the patient is not breathing or swallowing normally. Adequate preparation reduces the patient's anxiety and allows a smoother performance of the procedure.

Procedure

Office-based biopsies are performed in an otolaryngology clinic examination suite. This suite consists of an otolaryngology examination chair and a video tower with photodocumentation capability. No cardiopulmonary monitoring is performed during the procedure; however, the patient's vital signs are collected before the visit.

Anterior rhinoscopy is used to determine the patient's more patent nasal passage, and an aerosolized solution of lidocaine and oxymetazoline is applied. Two cotton pledgets soaked with the same solution are placed into the same nasal passage. The patient is instructed to inhale 3 mL of nebulized solution of 4% lidocaine. After 5 minutes, the pledgets are removed and the patient is asked to lean his/her torso forward and place his/her chin up to assume a "sniffing" position. A channeled flexible distal chip laryngoscope lubricated with 2% lidocaine jelly is passed through the anesthetized nasal cavity along the floor of the nose and advanced into the oropharynx. Three 1-mL aliquots of 4% lidocaine are then applied to the

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Figure 1 Cup forceps biopsy of a left vocal fold lesion. (Color version of figure is available online.)

lesion as follows. The patient is asked to hold a long /e/ and the endoscope is positioned above the lesion to be biopsied. One mL of 4% lidocaine is inserted through the channel of the endoscope and distributed along the lesion. This is repeated twice. Immediately after the delivery of the third lidocaine aliquot, the biopsy forceps is passed through the channel of the laryngoscope.

The laryngoscope is suspended above the lesion by the surgeon, and an assistant passes the biopsy forceps through the channel of the laryngoscope.

The forceps are opened and are used to grasp a portion of the lesion (Figure 1). After the lesion has been grasped, the surgeon holding the endoscope advances the laryngoscope to the lesion to provide countertraction of the tissue. The surgeon

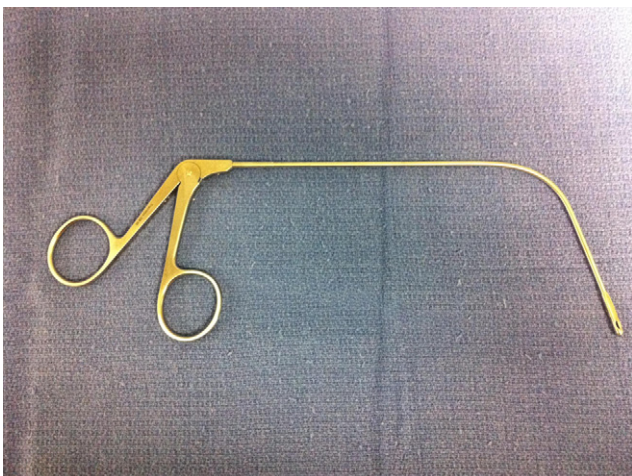


Figure 2 Transoral biopsy forceps. (Color version of figure is available online.)



Figure 3 Transoral biopsy. The patient holds his own tongue while surgeon uses an angled telescope to guide laryngopharyngeal biopsy. (Color version of figure is available online.)

with the biopsy forceps pulls the forceps from the channel of the laryngoscope. While the tissue is removed from the biopsy forceps, the laryngoscope is kept within the patient's nasal passage and suspended in the oropharynx. Suction is intermittently applied as necessary. Two to four biopsies are performed to ensure adequate amount of specimen.

Alternatively, a transoral approach may be used. The patient is instructed to inhale 3 mL of nebulized 4% lidocaine. An atomizer is used to spray the patient's oral cavity and oropharynx with additional 4% lidocaine. The patient assumes the "sniffing" position and is instructed to hold his tongue with gauze. Visualization of the laryngopharynx is obtained with either a transnasal flexible laryngoscope held by an assistant or with a transoral rigid-angled telescope held by the surgeon. The view from the scope is transmitted to a screen on the video tower.

An Abraham cannula attached to a syringe with 4% lidocaine is placed along the patient's lingual sulcus and directed over the lesion.⁵ Three 1-mL aliquots of 4% lidocaine are distributed over the lesion. A transoral biopsy forceps is then inserted into the oral cavity, placed superior to the lesion, and used to grasp the lesion (Figures 2 and 3).

Patients are counseled to avoid per oral intake for at least 1 hour, or until laryngeal and pharyngeal sensations return. Acetaminophen is used for pain control.

Appendix. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.otot.2012.06.001>.

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