



Airway Management in a Geriatric Patient with an Omega-Shaped Epiglottis. Case Report

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Abstract

An omega-shaped epiglottis may present as a foreign body sensation in the throat in childhood, or it may accompany laryngomalacia. Airway obstruction may occur due to the morphology of the epiglottal deformity. The literature has limited information on cases with manifestation in the geriatric population. This report concerns a 72-year-old male who presented complaining of hoarseness for 3 months. The patient had a 40-pack/year history of cigarette smoking. The patient was taken to the operating room for laryngeal biopsy. Following anesthesia induction, the initial attempt at endotracheal intubation by direct laryngoscopy with a Macintosh-type blade was unsuccessful because the rima glottidis was located significantly superiorly and anteriorly. A second attempt was performed by videolaryngoscopy. The endotracheal intubation was successful during this attempt using a 6.5-mm spiral endotracheal tube stylet. No airway complications emerged.

Keywords Geriatrics · Epiglottis · Video recording · Laryngoscopy · Endotracheal intubation · Leukoplakia

Introduction

An omega-shaped epiglottis may present as a foreign body sensation in the throat in childhood, or it may accompany laryngomalacia [1]. Laryngomalacia is a congenital anomaly of the larynx and may resolve spontaneously with age [2]. Airway obstruction may occur due to the morphology of the epiglottal deformity [3]. An omega-shaped epiglottis may present challenges in airway management, including difficulties with ventilation and endotracheal intubation in anesthesia administration [4]. The literature has limited information on

cases with manifestation in the geriatric population. In this case presentation, we aimed to present a successful endotracheal intubation procedure employing videolaryngoscopy in the challenging airway management of a geriatric patient having an omega-shaped epiglottis, as well as describing postoperative outcomes.

Case

The patient presented in this article was a 72-year-old male who presented complaining of hoarseness for 3 months. The patient had a 40-pack/year history of cigarette smoking. Echocardiography revealed an ejection fraction rate of 60%. The patient had no comorbid diseases except mild mitral insufficiency. The computerized tomography scanning of the patient revealed leukoplakia on the right vocal cord (Fig. 1). To perform a laryngeal biopsy, the patient was taken to the operating room and patient monitoring was initiated. For anesthesia induction, pentothal (7 mg/kg), rocuronium (0.6 mg/kg), and fentanyl (1 µg/kg) were administered intravenously. Then, 50% oxygen/air mixture and sevoflurane (1 mac) were administered. After the induction, the initial attempt at endotracheal intubation by direct laryngoscopy with a Macintosh-type blade was unsuccessful because the rima glottidis was located significantly superiorly and

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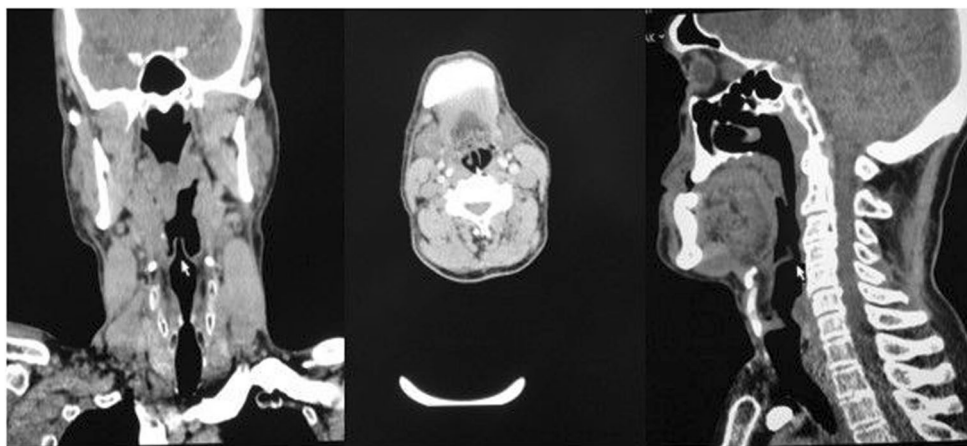
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Fig. 1 Coronal and sagittal tomography view of omega-shaped epiglottis. Axial tomography image of right-side vocal cord thickening (leukoplakia)



anteriorly. The video image of the omega-shaped epiglottis was obtained during the fiberoptic laryngoscopy (Video 1). No difficulties emerged during mask ventilation. The second attempt performed by using videolaryngoscopy and endotracheal intubation with a 6.5-mm (Chilecom, China) spiraled endotracheal tube stylet was successful (Video 2). Figure 2 shows a photograph depicting the intraoperative laryngeal leukoplakia biopsy procedure (Fig. 2). The patient emerged from anesthesia without complication after a 40-min operation.

Discussion

Laryngeal anomalies and anatomical variations can present challenges in airway management and difficult ventilation in anesthesia administration. An omega-shaped epiglottis may cause challenges with airway management and also may result in difficult ventilation due to occlusion of the airway in the postoperative period [3]. In the patient presented in this article, endotracheal intubation was performed utilizing videolaryngoscopy, which was helpful in navigating the abnormal anatomical location of the epiglottis. Airway obstruction did not develop in the postoperative period in this case. Although some studies have failed to show superiority of videolaryngoscopy over direct laryngoscopy [5], other studies have reported advantages of videolaryngoscopy over direct laryngoscopy [6], provided that it is performed by experienced



Fig. 2 Leukoplakia view of the right vocal cord in direct laryngoscopy

hands, as in our case. Additionally, videolaryngoscopy can reduce the number of failed intubations by providing a better view, especially in patients presenting with a difficult airway [7]. Traumatic injuries to the upper respiratory tract may occur with repeated direct laryngoscopy attempts when the field of sight is limited. In the literature, it has been reported that videolaryngoscopy provides important advantages for endotracheal intubation, especially in the patient group with limited mouth opening and neck movements [8]. Despite the ongoing debate about whether videolaryngoscopy is superior to direct laryngoscopy in endotracheal intubation, we believe that it is often advantageous because of an improved view in various laryngeal anatomic variations, particularly in geriatric patients with restricted neck extension and limited mouth opening, due to the high likelihood of temporomandibular joint ankylosis in such cases.

Authors' Contribution Özkan GÖRGÜLÜ: Manuscript writing/editing. Mehmet Nuri KOŞAR: Data collection or management.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Informed Consent Informed consent of the patient was obtained.

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