AirWay Scope™ for Difficult Ventilation in a Patient With Epiglottic Cyst

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Epiglottic cysts often cause difficulty in airway management, with potential serious life-threatening complications.¹ This case report describes a patient with an epiglottic cyst in whom mask ventilation became difficult after induction of anesthesia. Immediately, an AirWay Scope™ (TMAWS-S100; Pentax, Japan) was inserted orally, and the location of the epiglottis was clarified to assess the reason for difficulty with ventilation. This case demonstrates usefulness of the AirWay Scope in patients with epiglottic cyst.

Key words: Epiglottic cysts; AirWay Scope; Difficult ventilation.

Epiglottic cysts are a rare cause of airway obstruction and often cause difficulty with airway management that can be potentially life threatening. We report a patient with an epiglottic cyst in whom laryngoscopy was performed with an AirWay Scope™ (AWS; TMAWS-S100; Pentax, Japan) due to difficulty in maintaining ventilation after induction of anesthesia, leading to improved ventilation and clarifying the cause of airway obstruction.

The patient was a 62-year-old man (164-cm tall and weighing 53 kg). He had required nasal continuous positive air pressure for sleep apnea syndrome over the past few years, and his preoperative apnea-hypopnea index was 84 (≥ 30 = severe). He was scheduled for removal of an infected titanium plate after previous mandibulectomy and neck dissection under general anesthesia.

Midazolam (1 mg), fentanyl (100 μ g), and propofol (3 mg/kg/h; 50 μ g/kg/min) were administered intravenously without a muscle relaxant for awake intubation. However, spontaneous ventilation diminished and mask ventilation became difficult. Arterial blood oxygen saturation decreased to 68%. Immediately, preparations for emergency tracheostomy were made, and the AWS was inserted orally at the same time. Insertion of the AWS was easy, and his breathing showed marked

improvement, with arterial oxygen saturation increasing to 95% or higher. The glottis and its surroundings were thoroughly observed using the AWS, revealing that difficulty with ventilation was due to impaction of an epiglottic cyst into the vocal cords, causing complete obstruction during inspiration (Figure 1). The cyst was soft, fragile, and bled easily. Difficult tracheal intuba-

The AirWay Scope™ shows the cyst and epiglottis. The cyst, epiglottis, and surroundings were thoroughly observed with the AirWay Scope. The cyst seemed to be soft.

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tion was anticipated, and there was a risk of tracheal occlusion by hemorrhage due to cyst rupture. Accordingly, it was decided to awaken the patient and perform surgery under local anesthesia. Afterward, an otolaryngologist found no evidence of the cyst or residual inflammatory granulation tissue. In this patient, the cyst might have disappeared after being ruptured or absorbed.

Epiglottic cyst-related occlusion of the glottis likely led to ventilation difficulty in this patient. If an AWS, or other video laryngoscope, had not been used, the etiology would have been unclear, possibly resulting in serious life-threatening complications. We believe that laryngoscopy with the AWS might have lifted the epiglottis together with the large epiglottic cyst and thus improved ventilation in our patient as well as

confirmed the cause of the airway obstruction. It is possible that conventional laryngoscopy might have been effective as well, but the increased force required might have led to increased bleeding. This case demonstrates the usefulness of videolaryngoscopy in patients with an unknown cause for airway obstruction.

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