

A combination of KingVision videolaryngoscope and flexible fibroscope for awake intubation in patient with laryngeal tumor — case report and literature review

Tomasz Gaszyński

*Department of Emergency Medicine and Disaster Medicine,
Medical University of Łódź, Poland*

Sir,

Intubation of patients with a supraglottic mass causing an obstruction of the glottis is difficult even for experienced anesthesiologists. We present our case of combined use of KingVision videolaryngoscope (King Systems, Noblesville, USA) and flexible fibroscope for awake intubation of patient with laryngeal tumor. Patient's written consent was obtained for publication. A 83-yr old male was admitted to Department of Laryngology at Barlicki University Hospital, Poland for treatment of laryngeal tumor. Patient had former history of treatment of laryngeal cancer with radiotherapy. At moment of admission patient suffered from sore throat, problems with speaking and sleep disturbances caused by respiration difficulties. He was scheduled for urgent tracheostomy. Because of radiotherapy typical attempt of tracheostomy under local anesthesia was not possible. Following discussion with specialist he was scheduled for tracheosto-

my under general anesthesia with endotracheal intubation. After larynx indirect examination it appeared that entrance to larynx is not visible and tumor mass is covering epiglottis and entrance to larynx. This was confirmed in CT scans. It was decided to perform awake fibroptic intubation under local anesthesia. Patient was anesthetized using 4% lidocaine spray topical anesthesia in typical method for bronchoscopy. A 0.1 mg of fentanyl and 0.5 mg of atropine was administered iv. Dexmedetomidine infusion was commenced with loading dose of $1 \mu\text{g kg}^{-1}$ over 10 minutes and then at ratio $0.5 \mu\text{g kg}^{-1} \text{h}^{-1}$. Awake fiberoptic intubation was started as soon as the patient reached a Ramsay sedation scale score of 4. An experienced bronchoscopist was attempting fibroptic intubation (Lipp-Golecki set intubation fibroscope, Karl Storz, Tuttlingen, Germany). Unfortunately he could not find entrance to larynx not from oral nor from nasal approach. We decided to use KingVision videolaryngoscope to attempt visualization of entrance to larynx. When introducing gently videolaryngoscope it was possible to elevate tumor mass with the tip of videolaryngoscope blade and visualize entrance to larynx. Then the fibroscope was introduced in the ET tube channel of videolaryngoscope and proceeded to the trachea (Fig. 1). Patient was intubated with ET tube no 7 with no complications and general anesthesia was commenced with propofol infusion. Surgery and perioperative period was uneventful.

To the best of our knowledge it is first report of combine use of KingVision videolaryngoscope and flexible fibroscope



Figure 1.

Należy cytować wersję: Gaszyński T: A combination of KingVision videolaryngoscope and flexible fibroscope for awake intubation in patient with laryngeal tumor — case report and literature review. *Anaesthesiol Intensive Ther* 2015;47:433–435. 10.5603/AIT.a2015.0019.

for awake intubation. Greib *et al.* [1] used DCI videolaryngoscope (Karl Storz, Tuttlingen, Germany) which is very different in construction and operation to KingVision which is from the group of videolaryngoscopes with ET tube channel incorporated into blade. We used similar method of local anesthesia for our patient with success. Additional opioid is very effective to attenuate reflexes from posterior wall of pharynx and entrance to larynx during fibroscopy. Xue *et al.* [2] reported 13 cases of awake combined Glidescope — fibroscope intubation. In our case, the same as in Xue's report we administered fentanyl with good effect. Choi *et al.* [3] reported awake combined Glidescope — flexible fibroscope intubation in patient with an elliptic tumor mass about 4 cm in diameter which was blocking almost all of the top part of the glottis. They used remifentanyl infusion as opioid. The number of reports of combined use of videolaryngoscopes and flexible fibroscopes is limited. Other studies found in PubMed are on intubation under general anesthesia. The study of Greib *et al.* was performed on patients under general anesthesia [1]. Moore *et al.* [4] described use of Glidescope and fibroscope in morbidly obese woman but also under general anesthesia

What is worth to mention, in case of Glidescope videolaryngoscope it may be necessary to introduce ET tube with stylet first nearby entrance to larynx, then remove the stylet and place fibroscope into ET tube, and then it could be proceeded into trachea [2]. In case of KingVision because of ET channel incorporated into blade the insertion of fibroscope was easier without former insertion of ET tube. It should be easier and require less maneuvers comparing to method of Xue *et al.* in which Glidescope operator had to inform bronchoscopist about position of tip of fibroscope [1].

Very interesting concept of using combination of videolaryngoscope and fibroscope called "smart stylet" technique was presented by Weissbrod and Merati [5]. Entrance to larynx is visualized by videolaryngoscope but fibroscope is used only as stylet with moveable tip- not for visualization of glottis.

As conclusion we assume that the use of KingVision videolaryngoscope combined with flexible fibroscope for awake intubation under dexmedetomidine sedation can be a good option in patients with suspected difficult intubation and it may be easier to use and more effective comparing to other videolaryngoscopes and/or fibroscope alone.

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Corresponding author:

Prof. Tomasz Gaszyński MD, PhD
 Department of Emergency Medicine and Disaster Medicine
 Barlicki University Hospital
 ul. Kopcińskiego 22, 90–153 Łódź, Poland
 e-mail: tomasz.gaszynski@umed.lodz.pl