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Editorial

Combined Techniques in Difficult Airway Management

Editorial

Difficult or failed tracheal intubation is an important cause of mortality and morbidity. Approximately 30% of anesthesia-related deaths are caused by the complications of difficult airway management. Also, 85% of respiratory complications result in brain damage or death [1]. Awake tracheal intubation is the most appropriate method for protection of airway reflexes in patients, who are expected or known to have difficult intubation. However, the use of video laryngoscope in awake patients in a way similar to the use of classic direct laryngoscope, which requires hanging of epiglottis or the use of fiber optic bronchoscope through nose, disturbs patients and complicates the procedure by causing gag reflex and mucosal bleeding.

It will be much more comfortable for the patient if the glottis is viewed by zooming the video laryngoscope in of if the front camera of fiber optic bronchoscope is used and advanced through the oral way by passing the vocal cords. In this way, the procedure can be performed under light sedation, and the complication risk can be lowered.

Successful management of known or unexpected difficult laryngoscopy is the key component of safe medical care. Unfortunately, the available methods used for evaluation of airway for difficult laryngoscopy may be insufficient due to low predictive value. Therefore, various techniques are applied for management of the difficulties that may be encountered during laryngoscopy, and new techniques are coming into use day by day. Videolaryngoscopy offers a new approach to the management of the difficult airway. Unlike direct laryngoscopy, it does not require to sort the laryngeal, pharyngeal and oral axes. Earlier studies have reported that videolaryngoscopy provides advantage in patients with obesity or cervical spinal stabilization [2,3]. Intubation with fiber optic bronchoscopy has been successfully used in patients with limited mouth opening as well as in the ones with cervical motion restriction.

Combined techniques have started being applied in clinic today. In literature, there is one case study reporting the use of video laryngoscopy combined with Bonfils [4]. There is another study making a comparison between the use of Airtraq alone and its combined use with fiber optic bronchoscopy in manikins [5]. However, Airtraq laryngoscope cannot be used in patients with limited mouth opening [1]. In another case study, Airway scope was

combined with elastic plugs. In a short series of 15 patients, fiber optic bronchoscopy was used with CARTO, the cardiac interventional catheter, in patients that presented difficult airway [6]. Fiber optic bronchoscopy was used in combination with Airway scope [7] for tracheal intubation of a patient with large epiglottic cyst. Another case study reported the use of fiber optic bronchoscopy combined with Glidescope for unexpected difficult intubation [8].

In recent years, videolaryngoscopes have gained popularity. Videolaryngoscopes are newly developed devices that ensure suitable conditions for intubation by providing glottic view through a camera. Many videolaryngoscopes with various features are in use in clinic today. Reduction of Cormac Lauen intubation difficulty score, success of intubation, and the time spent on successful intubation vary among videolaryngoscopes [9].

C-Mac videolaryngoscope is a large-screen videolaryngoscope, which can be successfully used for management of difficult airway as well as routine airway. McGrath Mac videolaryngoscope has a small integrated LCD screen. The curvature of McGrath Mac videolaryngoscope is based on a Macintosh blade, and it is used in clinic by covering the tip of blade with a 60° angled acrylic sheath. It enables intubation via the camera placed at the tip. I believe that both videolaryngoscopes can be applied successfully in clinic via the combined method. However, it is also true that randomized studies are necessary to prove their usefulness in clinic.

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