



## Supraglottic airway devices: more good than bad

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Supraglottic airway devices (SADs) are tools designed to maintain an open upper airway. Since the classic laryngeal mask airway was introduced in the early 1980s by Dr. Brain, numerous upgraded and improved second-generation SADs, which incorporate specific features to improve the positive pressure ventilation and reduce the risk of aspiration, have been used in clinical practice. Thus, SADs have resulted in a paradigm shift in airway management in patients undergoing surgical procedures under general anesthesia.

SADs are an effective alternative to tracheal intubation for routine general anesthesia. They have advantages over tracheal intubation, namely, they present stable hemodynamics and decreased airway morbidity [1]. Currently, as numerous SADs differing in geometry (body shape, flexibility, presence or absence of an inflatable cuff, automatic control of cuff inflation pressure during positive pressure ventilation) have been used in clinical practice, many clinical studies comparing their clinical performances have been performed. A prospective randomized study conducted by Choi et al. [2], which was published in the latest issue of the *Korean Journal of Anesthesiology (KJA)*, compared the clinical performances of the Baska Mask<sup>®</sup> and i-gel<sup>®</sup> in patients undergoing laparoscopic cholecystectomy. There were no significant differences in respiratory or hemodynamic parameters, insertion-related characteristics, or postoperative airway-related complications between them, except for a higher

oropharyngeal leak pressure in the Baska Mask<sup>®</sup>.

SADs can be used to aid blind or fiberoptic bronchoscope-guided intubation [3–5]. Particularly, in cases of failed direct laryngoscopy or failed intubation, blind or fiberoptic bronchoscope-guided insertion of a tracheal tube through the SAD is used to achieve formal tracheal intubation. In addition, the use of SADs can increase patient safety by providing continuous ventilation during airway management in patients with difficult laryngoscopy or intubation. A case series and narrative review article, which was published in the latest issue of the *KJA*, demonstrated successful fiberoptic bronchoscope-guided intubation via an Ambu Auragain<sup>™</sup> SAD in awake patients with anticipated difficult airway [6].

SADs can be used for airway rescue in difficult airway situations, such as “cannot intubate, cannot ventilate.” They can rescue emergent situations when traditional attempts to ventilate or oxygenate the patient fail. Both the difficult airway algorithm by the American Society of Anesthesiologists and Difficult Airway Society 2015 guidelines suggest the use of SADs for airway rescue in such scenarios [7,8]. In addition, SADs can be used for advance airway management in patients with out-of-hospital cardiac arrest, although their functional outcome was not favorable 30 days after the out-of-hospital cardiac arrest compared to tracheal intubation [9].

Although SADs are used for airway management, there are some concerns [1,10]. Ventilatory failure due to failed placement is a complication associated with their use, although the failure rate is low. Postoperative airway-related complications, such as sore throat and tongue injury, can occur in patients managed with SADs. Pulmonary aspiration of gastric contents can also occur during positive pressure ventilation using SADs, although the incidence is low.

In conclusion, recent advances in SAD design have enabled the popular use of SAD in patients undergoing surgeries under general anesthesia. Particularly, SAD is a useful tool for difficult airway management. However, while using SADs, attention should be paid to some complications, such as ventilatory fail-

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ure, airway injury, and pulmonary aspiration.

## Conflicts of Interest

No potential conflict of interest relevant to this article was reported.

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