Supraglottic airway devices, an update

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بسم الله الرحمن الرحيم

﴿ رب اوزعنى ان اشكر نعمتك التى انعمت علي

و على والدى و أن أعمل صالحا ترضاه و ادخلنى

برحمتك فى عبادك الصالحين ﴾

صدق الله العظيم

الآية (١٩) سورة النمل

TO MY FAMILY,

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First and foremost thanks to "ALLAH" for his help to fulfill this work.

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ABBREVIATIONS

ASA	**American society of anesthesia**
DL	**Direct laryngoscopy**
ETT	**Endotracheal tube**
ETs	**Endotracheal tubes**
FDA	**Food and Drug Administration**
FR	**French size**
GEB	**Gum elastic bougie**
ILA	**Intubating laryngeal airway**
LMA	**Laryngeal mask airway**
LT	**Laryngeal Tube**
NMBDs	**Neuromuscular blocking drugs**
PLA	**Perilaryngeal Airway**
PVC	**Polyvinylchloride**
SGA	**Supraglottic airway**
SLIPA	**Streamlined Pharynx Airway Liner**
SADs	**Supraglottic airway devices**
UK	**United kingdom**

ABSTRACT

The revolutionary advances of modern anesthetic practice started since the development of tracheal intubation, for decades airway management focused on providing ventilation by bag and mask, laryngoscopy and intubation.

This attitude has changed after the introduction of the laryngeal mask airway, which can be denoted as a milestone in the field of airway management.

Supraglottic airway devices have become a standard fixture in airway management, filling a niche between the face mask and tracheal tube.

There are a large number of supraglottic airway devices, some of which appear similar to the LMA family and others that work under a different concept.

Examples :LMA classic , LMA Unique, the Ambu Laryngeal Mask, the Portex Soft Seal Laryngeal Mask, LMA ProSeal, the LMA Fastrach , the LMA CTrach, the Laryngeal Tube (LT) , the air- Q and the I-gel airway.

Key words: *Supraglottic.

* Laryngeal mask airway (LMA).

*Airway.

* Ambu

Airway anatomy

The term airway in its clinical usage refers to the upper airway, which may be defined as the extra pulmonary airway passage, consisting of the nasal and oral cavities, pharynx, larynx, trachea and principle bronchi [(1)].

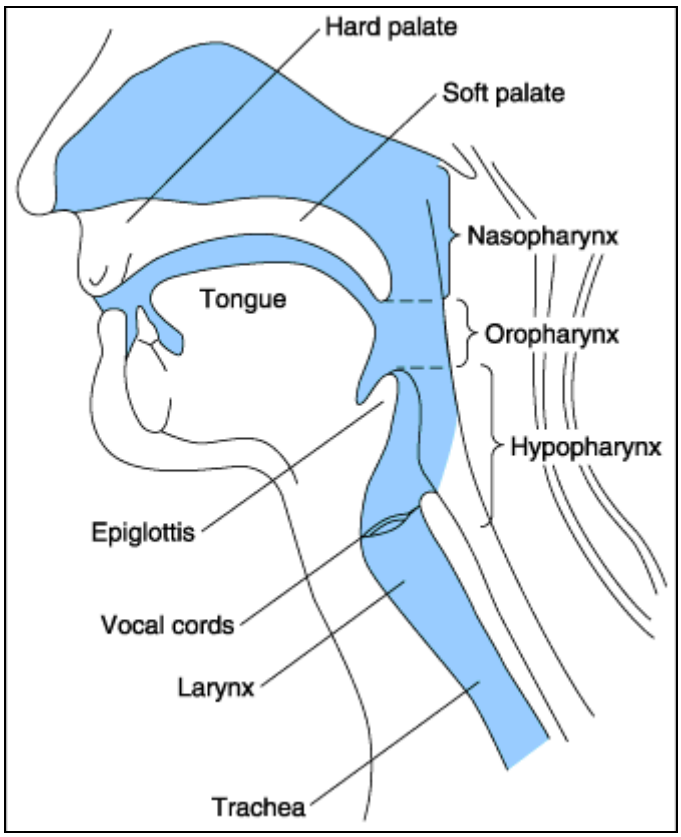

Figure (1): Anatomy of the airway[(1)].

The nose and nasal cavity:

The nasal airway extends from the anterior nares (nostrils) to the posterior nares or (choanae) before the nasopharynx.

The nose itself contains the two nasal vestibules, each approximately 2 cm long and 1 cm wide, and leads to a nasal cavity.

The skeleton of the nose is mainly cartilaginous, although the nasal bones contribute to the 'bridge' superiorly. It is covered by skin rich in sebaceous and sweat glands and bearing coarse hairs.

The nasal cavity is a narrow passage that extends back almost horizontally from the vestibule and is lined mainly by a ciliated columnar epithelium.

Its arched ceiling extends superiorly to the olfactory area with olfactory epithelium overlying the cribriform Plate. This ceiling is supported by the nasal, frontal, ethmoid (containing the cribriform plate) and sphenoid bones.

The medial wall (nasal septum) separating the two nasal cavities is formed mainly by the plate of the ethmoid bone and by the vomer.

The floor of the nose is formed by the palatine process of the maxilla and the palatine bone, which make up the hard palate, and by the soft palate posteriorly [(2)].

The lateral wall of the nasal cavity is supported by the maxillary and ethmoid bones. Its surface area is increased by three horizontally running bony folds: the superior, middle and inferior conchae (turbinates).

Nerve supply

The olfactory mucosa is supplied by the olfactory nerve.

The trigeminal nerve supplies the remaining majority of the nasal cavity through its ophthalmic and maxillary divisions [(2)].

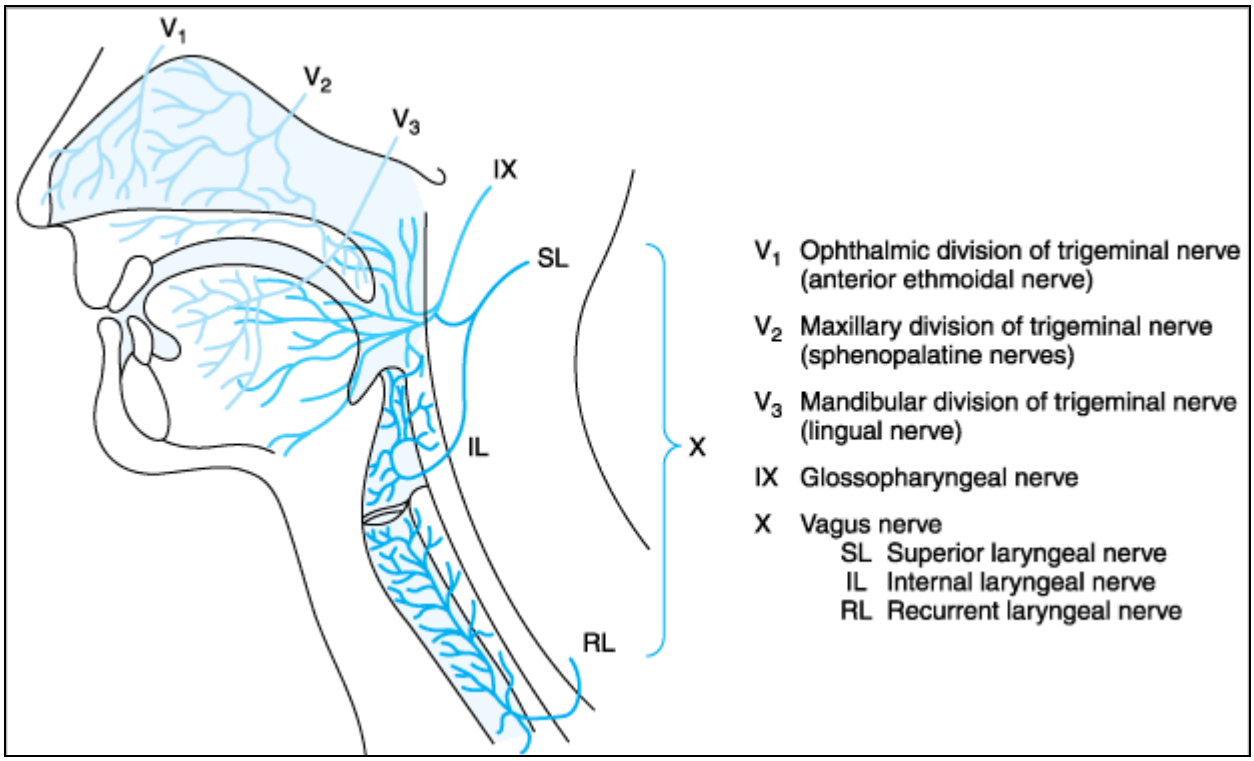

Figure (2): sensory nerve supply of the airway [(1)].

The mouth and oral cavity:

The mouth, while part of the airway, is also the uppermost part of the digestive tract. It extends from the lips to the oropharyngeal isthmus at the level of the palatoglossal folds and is divided by the teeth into an outer vestibule and the oral cavity proper. It is bounded anterolaterally by the teeth and gums and