

# The role of the larynx in the obstructive sleep apnea syndrome (OSAS)

## Opinion

The larynx is a neglected organ in the diagnosis of Obstructive Sleep Apnea Syndrome (OSAS) but it plays a very important role. Its main role is based on the mucosal vibration or the collapse of the laryngeal muscles, either partially or completely. The main problem occurs in supraglottic area, mainly in epiglottis by either vibration or folding of long epiglottis. The Hypertrophied False Vocal Chords also play a very important role in complete obstruction during respiration. The collapse in this area may occur anteroposterior, laterally or circumferentially, which leads to severe Obstructive Sleep Apnea (OSA) up to stridor during sleep especially if it is accompanied with a huge tongue base and palatal factor.

To diagnose the laryngeal role in OSAS, we use DISE (Drug Induced Sleep Endoscopy) by using propofol injection (the best drug that helps in reaching the nearest stage of normal sleeping) and by using flexible endoscopy, with or without Müller's Maneuver. After passing the level of tongue base, we can see the vibration or collapse of this area during respiration where the apnea occurs.

As in any case of OSAS, there are several solutions to overcome the problem, either non-surgical solutions, like CPAP or BiPAP, or surgical solutions. This problem is solved after solving the problems of nose, palate, oropharynx and tongue base. There are many operations to expand the area between tongue base and the larynx, but nowadays the best effective surgical solution is the Hyoid Suspension.

The aim of the Hyoid Suspension Operation is to expand the area between the tongue base and the supraglottic area, anteriorly and forward, to increase the muscle tension and decrease the collapse. It is a simple operation, done under general anesthesia by a small incision in the middle between the thyroid cartilage notch and hyoid bone. After complete dissection for complete exposure of the hyoid, we take two strong sutures on both sides between the long horn of the hyoid and the lateral wall of the thyroid cartilage, then with a tight knot,

we attract the hyoid bone anteriorly and forwardly in the direction of the thyroid cartilage, which leads to the expansion of the laryngeal box. The most notable side effects of this operation are dysphagia and dysarthria, which ends within three weeks. It is one of the best operations but it needs special surgical skills.

As a result, it is important to know that the larynx plays a very significant role beside the other levels of obstruction (nasal, palatal...) therefore, its problems must be taken care of to reach better results.

## Acknowledgments

None.

## Conflicts of interest

Author declares there are no conflicts of interest.

## Funding

None.

Volume 4 Issue 2 - 2016

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**Received:** May 27, 2016 | **Published:** June 06, 2016