

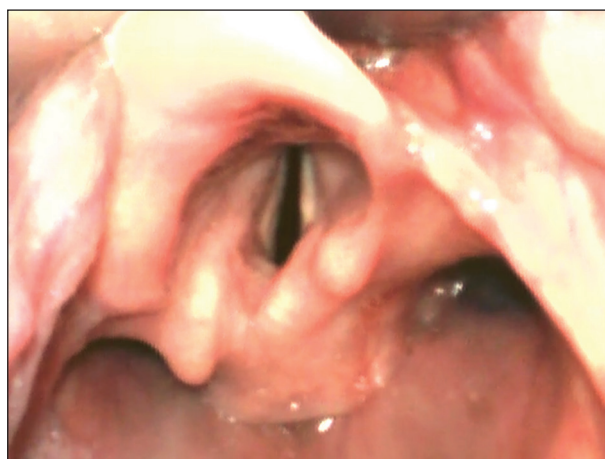
## Video laryngoscope aids in the assessment of vocal cord paralysis due to recurrent laryngeal nerve injury after thyroid surgery

Sir,

Injury to recurrent laryngeal nerve (RLN) resulting in vocal cord (VC) paralysis is a feared complication after thyroid surgical procedure. Despite the fact that the incidence has decreased from 17% to as low as 1.5% with evolution of surgical technique, it still stays high in cases involving re-exploration, malignancy, radiation exposure, and gigantic goiters.<sup>[1]</sup> The crucial factors leading to RLN damage during thyroid surgical procedure are excessive tissue stretch, suction, electrocautery and ischemia, which may go unnoticed during surgery.<sup>[2]</sup> There is no uniform opinion whether laryngoscopy at the finish of thyroid surgery to assess vocal cord function (VCF) is an essential standard or simply an unnecessary routine. This might depend upon the certain institutional protocols and the presence of factors related to the gland itself, which broaden the chance of RLN damage.

The video laryngoscope has recently become a very important piece of equipment in the anesthesiologist airway armamentarium, which has a digital camera, incorporated into the blade.<sup>[3]</sup> Without the need of three-axis alignment and minimal swings in hemodynamics, the video laryngoscope provides an optimal glottic view, which is projected onto a screen

where it can be visualized by both the anesthesia and surgical teams. The image generated by a wide-angled lens focused at the VCs provides a good view of supraglottic anatomy [Figure 1] compared with conventional laryngoscopes where only the operator can see the target. In addition to confirming the VCF with the surgeon, capturing a video of VC movement can be very useful for documentation purposes.<sup>[4]</sup> Recent data also suggest that the use of video laryngoscopy is especially valuable in assessing the airway prior to extubation under deep anesthesia.<sup>[5]</sup> The strategies to prevent breath-holding and spasm are suctioning the airway while patients are still under sufficient anesthetic depth, turning the patient into lateral position and application of continuous positive airway pressure with 100% oxygen. Recently, we have found its usefulness in evaluating VC mobility at the end of thyroid surgery, and its use, in this case, has actually prevented the morbidity.



**Figure 1:** View of supraglottic anatomy during video laryngoscopy

A 53-year-old woman, a known asthmatic, was given general anesthesia for total thyroidectomy. She had a history of subtotal thyroidectomy 4 years back. The previous surgery resulted in adhesions and difficult surgical dissection at this time. The left RLN was clearly identified but right nerve was presumed damaged, so we planned to evaluate VCF at the end of surgery. When patient's spontaneous breathing resumed while she was still under inhalational anesthetics, we performed laryngoscopy with Karl Storz C-MAC Videolaryngoscope (CMAC) (Karl Storz, Tuttlingen, Germany) and VC movement was assessed by surgical and anesthesia personnel. It was clearly evident that right VC was not moving at all while left was functioning normally (video can be seen through this link - <https://www.dropbox.com/s/7oodrd860p8vg76/20-01-2015.mp4?dl=0>). The decision was taken to perform a tracheostomy.

If vocal cord paralysis is seen on video laryngoscopy, a timely decision can be taken in consultation with the surgical team whether a tracheostomy should be done to manage airway postoperatively and minimize the risk of emergency reintubation.

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