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# *The Airway Gazette*

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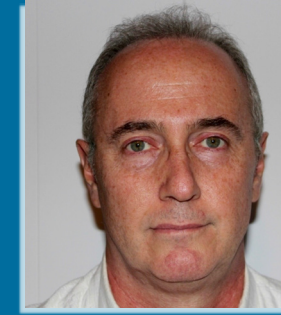
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# Strategy for Addressing the Airway in a Forced Lateral Decubitus

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A 17 years old male patient presented with a progressively enlarging back tumor of six months duration, prompting him to wear jackets and backpacks to conceal it from others. He had intense, continuous pain in the region, and an inability to lie down in a supine position.

Family history was negative.

Vitals signs: BP 110 /70 Pulse 80 Respiratory rate 14

Laboratory studies: The only abnormality: hemoglobin 9 gm, hematocrit 29%.

Chest Xray, CT, MRI: metastatic signs, but no airway or respiratory compromise.

Electrocardiogram was normal. He was not an aspiration risk.

Except for the tumor his history and examination (neurological, too) was normal.

Physical examination revealed the following:

height 174 cm (66 inches), weight 76 kg,

A fungiform-shaped tumor 28 cm in diameter crosswise and 20 cm of protrusion, was located approximately between the 6th and 12th thoracic levels. The surface of the lesion and nearby tissues had inflammatory and necrotic areas.

Palpation was painful and the consistency was hard, immobile and it did not shift on its flat, level base, which was indurated with penetration into the paraspinal tissues. (Fig. 1)



Figura 1: Tumor Dorsal

## Airway examination:

There were no predictors related to any difficulty for mask ventilation, supraglottic device usage, direct laryngoscopy or video laryngoscopy, except — it was impossible for him to adopt a supine position, and in fact, he had to be angled at more of a lateral decubitus than normal 90 degrees. Our preference was for the left side down (in case direct laryngoscopy was needed, so that the tongue would fall downward and away from the right side of the

mouth). (Fig. 2)



Figura 2: (Left lateral decubitus)  
Decúbito Lateral Izquierdo

The patient was scheduled for surgical reduction of the mass to improve his level of comfort.

## Anesthetic airway strategy:

**The first plan's target** was for tracheal intubation under general anesthesia (GA) and to take over ventilation with a VL device.

Of two VL devices, we chose to control ventilation and intubate with the Totaltrack® Video Laryngeal Mask system (Totaltrack VLM) because the mask is easy to insert in strange positions. The other VL choice was a GlideScope® VL (my personal favorite).

**Plan B** was to control ventilation and oxygenation with a second generation supraglottic device: ProSeal® Laryngeal Mask Airway (LMA), LMA Supreme®, i-Gel®, or use

the mask part of the Totaltrack. **(Plan for use, if needed)**

**Plan C** was to use a face mask, and employ two operators for handling the mask and ventilation bag, while keeping in mind the likelihood for using oropharyngeal airways, optimizing maneuvers, and muscle relaxation. **(Plan for use, if needed)**

**Plan D** was to use an infraglottic device (surgical airway). **(Plan for use, if needed)**

## Anesthetic course:

In the pre-anesthetic room, the patient was placed in the left lateral decubitus position with a well-functioning intravenous (IV). He was premedicated with IV midazolam 0.04 mg / kg and given oxygen by a supplementary mask (50%).

In the operating room, ECG, pulse oximetry, and non-invasive blood pressure were monitored. He was pre-oxygenated with a simple facial mask (100%) for three minutes. (Fig. 3)

Induction proceeded with intravenous propofol 2.5 mg kilo, remifentanyl 0.3 µg/kg/minute, vecuronium 0.8 mg / kg.

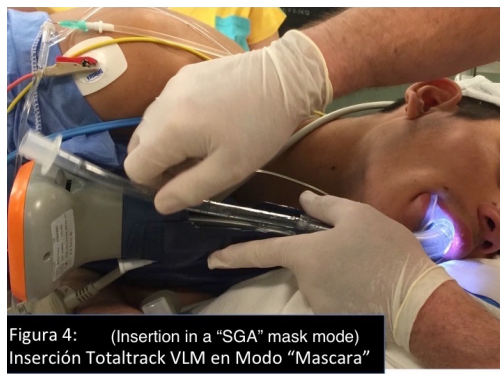


Figura 4: (Insertion in a "SGA" mask mode)  
Inserción Totaltrack VLM en Modo "Mascara"

A VLM number 4 was inserted uneventfully (Fig. 4) and the mask was inflated up to 60 cm pressure. Ventilation was accompanied by ETCO<sub>2</sub> 25-35 mmHg, and visual capnograms with consecutive normal morphology. The glottis was located on the screen (Fig. 5) and we proceed-

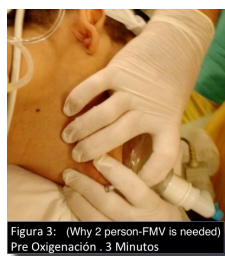


Figura 3: (Why 2 person-FMV is needed)  
Pre Oxigenación: 3 Minutos

ed to intubate the trachea while obtaining capnographic recordings (Fig. 6).



Figura 6: (in intubation mode)  
Totaltrack VLM en Modo "Intubación"

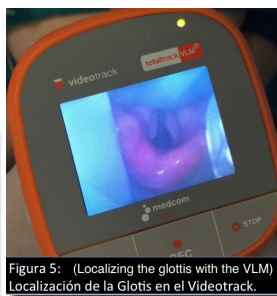


Figura 5: (Localizing the glottis with the VLM)  
Localización de la Glotis en el Videotrack.

Once the endotracheal tube was situated in the correct space, it was held firmly in place and the VLM was withdrawn.

The surgery proceeded according to plan with excision of

the tumor to a great extent uneventfully. (Fig. 7)

Subsequently, the patient was sent extubated, awake, ventilating satisfactorily, and hemodynamically stable to the recovery room.

#### Discussion:

The physical examination of the patient's airway, did not give any prediction of difficulty in addressing it. The forced decubitus position prompted the reason for



Figura 7: Tumor resecado (excised)

the selection of a videolaryngoscope. Totaltrack VLM, was chosen for the following reasons:

- 1) Ease of insertion of the laryngeal mask when patients are in positions that are not supine.
- 2) Control of ventilation with continuous oxygenation by the laryngeal mask insertion (with monitoring for normal consecutive capnograms).

3) Continuous vision through the videotrack, identification of the airway and vocal cords without interrupting ventilation, oxygenation, and administration of anesthetic gas.

4) Intubation under continuous vision of the laryngeal anatomy. The intubation was performed in less than two minutes and there was no need for stopping ventilation of the patient during that time.

Multiple alternative plans always remained available for our overall strategy.

We adopted the algorithm of the DAS: a strategy of four plans, where only our plan A aimed for "intubation," and control of ventilation. Use of our remaining plans B, C, and D, essentially were intended to maintain oxygenation by different specific actions in a manner that was most appropriate for the patient.<sup>1</sup>

One of the few studies on tracheal intubation in the lateral position in patients with normal airway anatomy, found that the Intubating Laryngeal Mask Airway® (ILMA) had a similar success rate and time required for blind intubation in the lateral versus supine positions.<sup>2</sup>

#### Conclusion:

The Laryngeal Mask Video is a new device with a bimodal functional concept to control the airway in different clinical scenarios. The initial operating mode is called "Mask" and the secondary is "intubation."

It is interesting to note the ability to operate in mask mode ventilation and oxygenation may be possible at the same time as the ability to view continuously, the airway and laryngeal structures, and to facilitate the final tracheal intubation.

#### References:

- <sup>1</sup> Frerk C et al. Difficult Airway Society intubation guidelines working group. 2015 Difficult Airway Society guidelines for management of unanticipated difficult intubation in adults. Br J Anaesthesia 2015;1-22. doi: 10.1093/bja/aev371.
- <sup>2</sup> Komatsu R et al. The Intubating Laryngeal Mask Airway Facilitates Tracheal Intubation in the Lateral Position. Anesth Analg. 2004;98(3):858-contents.