Challenges in difficult airway management – airway management in a case of prolonged enlarged thyroid gland (struma permagna)

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Introduction: Thyroid gland diseases often are associated with thyromegaly, which could lead to increased neck size and circumference, as a known predictor of difficult intubation.

Case Report : We present a 63 year old men with a left sided neck swelling with dimensions 96x71 mm. The thyromental distance was <6,5 cm, neck mobility was restricted. Mouth opening was adequate with Mallampati grade 4. Direct laryngoscopy revealed swelling of the epiglottis and restriction of the vocal cords mobility. Because of the anticipated difficult mask ventilation due to the huge size of the tumor, fiberoptic intubation was planned. Patient recieved 5mg Midazolam, 150µg Fentanyl, 50mg Rocuronium and 250mg Propofol. Endotracheal tube 7,5 mm was then threaded over the FOB. Total thyroidectomy was done. After careful consideration of the fact that problems with extubation were possible due to longer duration of the intervention, the edema and the possible postoperative bleeding, we decided that a tracheostomy should be done.

Easy

Views require no adjuncts

Restricted

Views require a gum elastic bougie

Difficult

Views require advanced techniques

Discussion: Comorbid conditions and some patient characteristics such as laryngeal edema, anterior neck swellings, short neck and obesity, Mallampati class 3/4 airway, neck mobility less than 90° may further aggravate the airway difficulties[1]. Our circumstance were in line with this finding. Preoperative imaging studies gave us details of the tracheal deviation and a light degree of tracheal compression. The first choice in this case was an awake fiberoptic intubation. Sengupta et al. and Tan and Esa stated in their studies that awake fiberoptic intubation offers more hemodynamic stability and better patency of the airway. Our patient didn't tolerate well the awake fiberoptic intubation. We had to give him anesthetics in order to intubate him, minimizing the possible risks. Considering the possible problems with the extubation due to the longer duration of the intervention, the supraglottic swelling and the high intraoperative blood loss and not having the equipment for fiberoptic bronchoscopy in case of a need of a reintubation, it was decided that a tracheostomy should be done before awakening the patient.

Learning points: Proper preoperative airway assessment, preparation and skillful management reduce the morbidity and mortality in difficult airway cases involving thyroid enlargement.

References: Bouaggad A, Nejmi SE, Bouderkha MA, Abbassi O. Prediction of difficult tracheal intubation in thyroid surgery. Anesth Analg 2004;99:603-6

Sir Robert Reynolds Macintosh
Ingredients of a good anesthetic

- **Good Airway!**
- **Good Airway!**
- **Good Airway!**