

Gigantic Pleomorphic Adenoma: An Impossible Intubation? (A Case Report)

Amine Zerhouni*, S Benhamza, M Lazraq, Y Miloudi, A Bensaid and N Elharrar

Department of Anesthesiology, 20 August 1953 Hospital, Morocco

***Corresponding Author:** Amine Zerhouni, Department of Anesthesiology, 20 August 1953 Hospital, Morocco.

Received: April 04, 2023; **Published:** April 21, 2023

Abstract

Any anesthesiologist, especially those faced with the management of a patient undergoing for ENT or maxillofacial surgery, must be concerned about the state of the airway. Airway management can be very delicate in case of intraoral extension of a tumor, it is therefore crucial to properly assess the airways during the preoperative period. We present a case of gigantic pleomorphic adenoma with intraoral extension and detail the anesthesia management.

Keywords: *Gigantic Pleomorphic Adenoma; Intubation; ENT*

Introduction

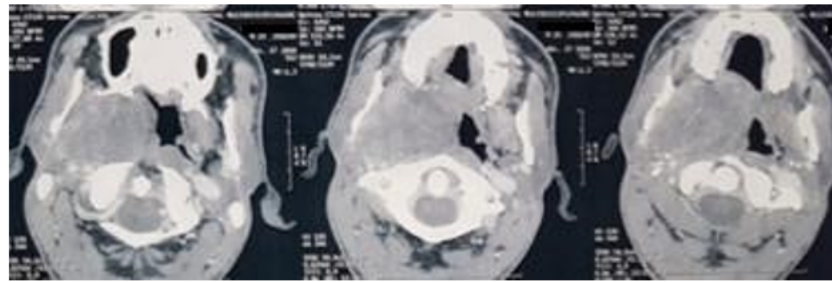
Pleomorphic adenoma is the most common salivary gland tumor and accounts for approximately 80% of parotid gland. The treatment is surgical under general anesthesia and there are two main different surgical approaches: an enucleation or a total parotidectomy. Airway management can be very delicate in case of intraoral extension of the tumor, it is therefore crucial to properly assess the airways during the preoperative period. We present a case of gigantic pleomorphic adenoma with intraoral extension and detail the anesthesia management and its peculiarities.

Case Presentation

A 77-kilogram, 27 years old patient with no medical history presented with a six month progressively increasing dysphagia and limited exercise tolerance. Examination revealed a rounded mass in oral cavity which the biopsy confirmed the diagnosis of pleomorphic adenoma. As part of the assessment of the state of the respiratory tract, the patient underwent a CT scan which showed the presence of a mass of the right parotid gland measuring 65 x 43 mm with intraoral extension not enhancing upon injection of the contrast product. The nasofibroscopy did not find a posterior deployment of the tumor with a free upper aerodigestive tract.

The data collected from the imaging examinations dissuaded us from the possibility of an orotracheal approach to protect the airways: our team therefore opted for a nasotracheal intubation.

The patient was premedicated with midazolam 3 mg. A lidocaine-soaked nasal packing was performed after a primary denitrogenation. The anesthetic team opted for a lidocaine gargling and a tracheal nerve block in order to decrease the discomfort of the procedure.



Picture 1: Multi-slice CT scan showing the intraoral extension of the adenoma. He underwent, then, for a total right parotidectomy under general anesthesia. Our patient had a thyro-mental distance of 5.5 cm with a mouth opening limited to 3 cm an upper bite lip test score 2 with a normal mobility neck. The absence of visualization of the uvula did not allow the assessment of the Mallampati score.

Spontaneous respiration was maintained successfully. An awake fiberoptic nasotracheal intubation was then successfully achieved. No hypoxia or adverse airway reflex was noted during the procedure. Fortunately, no tracheotomy was needed to secure the airway and the induction of anesthesia was performed. The surgery proceeded normally. We did not mention any respiratory problem in the post-intervention care room.

Discussion

Any anesthesiologist, especially those faced with the management of a patient undergoing for ENT or maxillofacial surgery, must be concerned about the state of the airway. This assessment is an integral part of pre-operative work-up and aims to predict unfortunate and serious problems, allowing a management plan to be set up for the surgical procedure, thus avoiding facing an unanticipated difficult airway. Basically, the aim is to look for all factors that could hinder either laryngoscopy/intubation or ventilation.

A focused history should be obtained from the patient about previous airway management problems: old anesthetic records if available, previous head/neck surgery or radiotherapy, obstructive sleep apnea and obesity.

Multi-slice CT scan can be a useful tool for preoperative airway evaluation in a patient with jeopardized airway [1]. A reconstitution with three-dimensional image provides a virtual bronchoscopic view which will dictate the anesthetic management. In the case of an anticipated difficult airway, awake fiber-optic intubation is considered as the gold standard technique which can be achieved with various equipment such as optical stylets, fiber-optic scopes and video laryngoscopes.

This technique cannot be done without a good mastery of the regional anesthesia of the upper airway, namely sensory innervation and usable local anesthetics as well as a safe sedation technique.

Warmed and humidified high-flow nasal oxygen is the most common oxygenation strategy used. The incidence of desaturation reported with low-flow oxygen techniques ranged between 12% and 16% [2], while the one reported for the high flow is 0 - 1.5% [3].

Lidocaine appeared to be the best option as a local anesthetic due to its negligible cardiovascular and neurological risk in topical use without exceeding a 9 mg/kg lean body weight dose [4].

No sufficient data is published to recommend any topicalization technique (spray, transtracheal injection, nebulization, mucosal atomization...). A particular attention will be given to the variation in absorption of the local anesthetic according to the technique used without exceeding the maximum allowable dose [5]. The primary use of topical vasoconstrictor is recommended to reduce the incidence of epistaxis. A higher risk of complications has been reported with nerve blocks compared to topical anesthesia: intravascular injection, nerve damage.

The main nerves supplying the oropharynx and larynx are the glossopharyngeal, superior laryngeal, and recurrent laryngeal; all three should be blocked to ensure patient comfort during the procedure. The nasal passages are supplied by the palatine nerves and anterior ethmoidal nerve which are usually blocked by the topical application of local anesthetic.

To reduce patient anxiety and discomfort and increase procedural tolerance, an awake tracheal intubation should be done in a sedated patient.

Dexmedetomidine, propofol and sevoflurane are the commonly used sedatives: Propofol is equivalent to Sevoflurane for the performance of fiberoptic intubation under spontaneous respiration in terms of success rate and the incidence of respiratory complications, but a shorter duration of induction and procedure was reported with the sevoflurane [6].

C. Tsai, *et al.* compared dexmedetomidine and propofol and concluded that Dexmedetomidine allows better tolerance, more stable hemodynamic status and preserves a patent airway [7]. The addition of remifentanyl can be of great help because of its short duration of action, a low risk of respiratory depression and its effect on nerve reflexes during intubation.

Conclusion

Airway management problems continue to be the single most common cause of morbidity and mortality attributable to anesthesia! The anesthetic technique described is one we commonly used when the airway is jeopardized. We preferred a spontaneously breathing technique, as this allowed us to assess dynamically the airway. Also, we were not certain of being able to ventilate this particular patient in the presence of neuromuscular blockade.

Bibliography

1. Toyota K, *et al.* "Preoperative airway evaluation using multi-slice three-dimensional computed tomography for a patient with severe tracheal stenosis†". *British Journal of Anaesthesia* 93.6 (2004): 865-867.
2. Rosenstock CV, *et al.* "Awake Fiberoptic or Awake Video Laryngoscopic Tracheal Intubation in Patients with Anticipated Difficult Airway Management: A Randomized Clinical Trial". *Anesthesiology* 116.6 (2012): 1210-1216.
3. El-Boghdadly K, *et al.* "A prospective cohort study of awake fiberoptic intubation practice at a tertiary centre". *Anaesthesia* 72.6 (2017): 694-703.
4. Ingrande J and Lemmens HJM. "Dose adjustment of anaesthetics in the morbidly obese". *British Journal of Anaesthesia* 105.1 (2010): i16-23.
5. Takaenoki Y, *et al.* "The Pharmacokinetics of Atomized Lidocaine Administered via the Trachea: A Randomized Trial". *Anesthesia and Analgesia* 123.1 (2016): 74-81.
6. Péan D, *et al.* "Propofol versus sevoflurane for fiberoptic intubation under spontaneous breathing anesthesia in patients difficult to intubate". *Minerva Anestesiologica Journals* 76.10 (2010): 780-786.

7. Tsai C-J, *et al.* "A comparison of the effectiveness of dexmedetomidine versus propofol target controlled infusion for sedation during fiberoptic nasotracheal intubation". *Anaesthesia* 65.3 (2010): 254-259.

Volume 6 Issue 5 May 2023

©All rights reserved by Amine Zerhouni, *et al.*