



Case Report

Nasotracheal Intubation under Fiber bronchoscopy: The Only Option in a Patient with Bilateral Arthrosis of the Temporomandibular Joint

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Abstract

Osteoarthritis of the Temporomandibular Joint (TMJ) is characterized by deterioration and abrasion of the articular cartilage and soft tissue surfaces that is accompanied by thickening and remodeling of the underlying bone. Patients report pain, jaw muscle fatigue, stiffness, and reduced mobility. Surgical treatment should be considered after failure of other non-invasive methods and if quality of life is significantly affected. TMJ disorders fall into the category of difficult airway and Nasotracheal intubation with optical fiber optic bronchoscopy with the patient awake is the technique of choice [1].

Keywords: Osteoarthritis; Temporomandibular joint; Difficult airway; Fiber optic bronchoscope

Case Presentation

We present the case of a 43-year-old woman with severe temporomandibular osteoarthritis (Figure 1, 2) who underwent surgery for the placement of bilateral prostheses (Figure 3). As background, he presented an adaptive disorder, second-degree Mobitz I atrioventricular block and hypervagotonia with a history of vasovagal syncope and cardiorespiratory arrest in two TMJ repair operations under general anesthesia.

Before the surgery, we obtained consent for the publication of the case, the anesthetic-surgical risks of the intervention were reported, and the implantation of a temporary perioperative external pacemaker was scheduled. The airway examination revealed retrognathia, inability to open the mouth (maximum 2 cm), which made it difficult to assess Mallampati, and an

intratracheal diameter of 1.7 cm (measured by ultrasonography with a linear probe in the transverse cervical axis).

Nasotracheal intubation with a 3-mm Ambu® a Scope™ Fiberoptic Bronchoscope is planned, under sedation with intravenous midazolam 2 mg and topical anesthesia of the upper airway with 0.4% lidocaine nebulization. A ringed tube of size 6.0 is chosen. As a nasal preparation, oxymetazoline is applied at 0.5 mg/ml, 1 ml per nostril. Sevoflurane is then administered via face mask for one minute before fiberoptic bronchoscopy. During the intubation maneuver, it is necessary to perform a jaw thrust maneuver to achieve a partial view of the vocal cords. Once the vocal cords are visualized, instillations of 0.4% lidocaine are applied “as you go” to facilitate the infraglottic penetration of the fiberscope and the tracheal tube. At the end of the intervention and with recovery of consciousness and spontaneous ventilation, the patient was extubated without complications and transferred to the post-anesthetic recovery unit.



Figure 1: Preoperative orthopantomography of the patient.

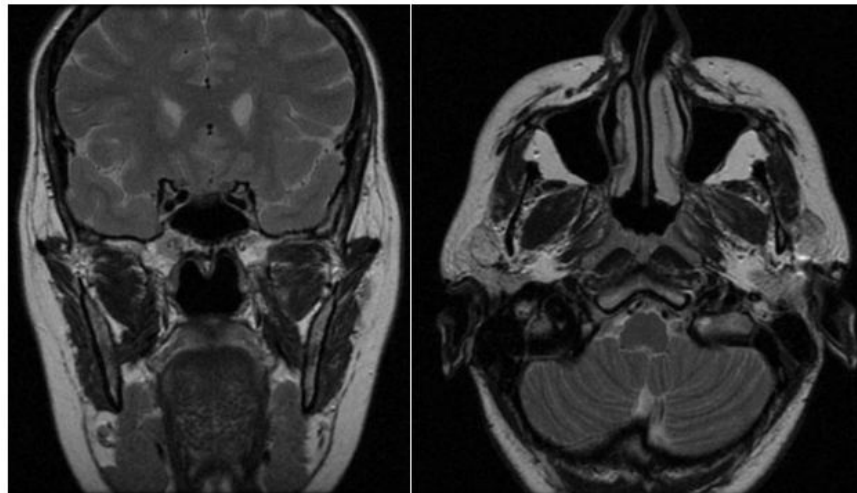


Figure 2: Bilateral degenerative arthropathy of the TMJ.

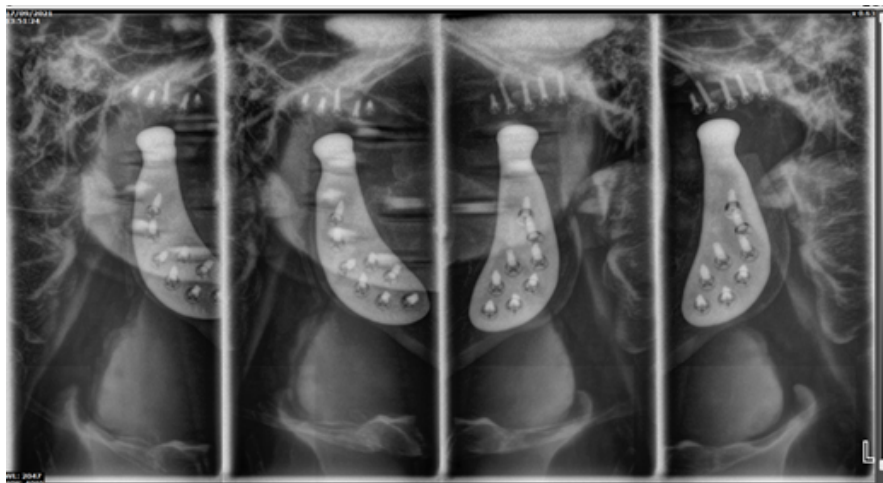


Figure 3: Post-surgical control of bilateral TMJ prostheses.

Discussion

Patients suffering from TMJ pathology, especially in cases of severe limitation of mouth opening, pose a challenge for all professionals involved in airway management. Airway exploration and planning should be as complete as possible. In the case of a mouth opening of less than 20 mm, the classic assessment scales are difficult to apply, the introduction of the laryngoscope blade may be impossible and may even aggravate joint injuries. These patients usually associate trismus refractory to general anesthesia

and neuromuscular relaxation (unlike trismus secondary to pain). Therefore, in most cases, intubation using a fiberoptic bronchoscope is usually necessary, either oral or nasal.

References

1. Sankar D, Krishnan R, Veerabahu M, Vikraman BP, Nathan JA (2016) Retrospective evaluation of airway management with blind awake intubation in temporomandibular joint ankylosis patients: A review of 48 cases. *Ann Maxillofac Surg* 6: 54-57.