Let awake transorbital fiberoptic intubation solve the triple trouble

Dear Editor,

Mucormycosis has an estimated prevalence of 0.14 per 1000 in India.[1] Diabetes, excessive corticosteroid use, and coronavirus disease 2019 (COVID-19) are the unholy trinity blamed for the maximum mucormycosis cases.[2] In addition to antifungal therapy, management usually entails aggressive facial surgeries involving the patient's airway. Airway management in such patients necessitates case-specific insight from anesthesiologists.

After taking the informed consent, we report an unusual method of Awake Transorbital Fiberoptic Intubation in a post-COVID-19 patient posted for right mandibular coronoidectomy. The patient underwent right orbital exenteration with right supra structure maxillectomy as the management of rhino-orbital mucormycosis. Airway examination revealed extremely limited mouth opening (5 mm) [Figure 1]. The possible conventional ways to secure the airway were either nasal fiberoptic bronchoscope (FOB) intubation or tracheostomy. History of choanal atresia precluded the nasal intubation possibility and the treating team wanted to explore any possible alternative to tracheostomy. Computed tomography revealed an unobstructed pathway from the orbit to the larynx en route through the neo-maxillary sinus [Figure 2]. The patient's unique anatomy (leading to the alignment of the orbital, neo-maxillary, and laryngeal axis) made a transorbital approach to endotracheal intubation (ETI) justifiable. Going by the traditional teaching; tracheostomy and otorhinolaryngology surgeons were kept on standby as Plan B.

Preoperative airway preparation included nebulization, viscous gargling, topicalization of the orbital mucosa, recurrent laryngeal nerve block, and superior laryngeal nerve block (total topical dose of lidocaine used = 5 mg/kg). Preoxygenation was done with 100% oxygen with the right orbital cavity occluded with a surgical mop. Flexible FOB (Olympus flexible intubation video endoscope, 4.9 mm × 60 cm) with a 7.5 mm endotracheal tube (ETT) railroaded over it was advanced transorbitally. "Spray as you go" was performed following visualization of vocal cords prior to ETT advancement. The ETT was secured with adhesive tape at the 26 cm mark at the orbital edge after confirming its position (above the carina) with FOB. The patient maintained spontaneous ventilation with no episode of desaturation during ETI. Weight-adjusted doses of an opioid, propofol and vecuronium were thereafter administered. The procedure went uneventful improving mouth opening from 5 mm to 25 mm.

A PubMed search revealed only six reports of transorbital intubation highlighting its rarity. To our knowledge, this is the first report highlighting the simultaneous presence of the unfortunate triad of limited mouth opening, choanal atresia, and anticipated difficult mask ventilation, all in one patient. The majority of the previous reports used transorbital intubation after induction of general anesthesia facilitating direct laryngoscopy and visualization of the glottis through the orbit. The threshold for limited mouth opening for laryngoscopy has been considered to be 20 mm.[3] However, our patient had a mouth opening of only 5 mm precluding oral laryngoscopy. We purposively chose awake FOB-guided intubation considering anticipated difficult intubation and mask ventilation thereby avoiding being caught in "cannot

Figure 1: Preoperative view of restricted mouth opening (interincisal mouth opening of 5 mm) and right orbital exenteration

Figure 2: Preoperative CT imaging revealing orbital exenteration and postmaxillectomy status

intubate and cannot ventilate" situation should the primary plan fails as has also been reiterated by Wallet *et al*. and Sanders *et al*.[4,5] This avoided the catastrophic situation whereby an elective tracheostomy gets converted into an emergency tracheostomy.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Mayank Gupta, Gegal Pruthi, Vaibhav Saini[1], Jyoti Sharma

Anaesthesia Department, AIIMS, Bathinda, Punjab, [1]E. N. T. Department, AIIMS, Bathinda, Punjab, India

Address for correspondence: Dr. Gegal Pruthi, Department of Anaesthesia and Critical Care, AIIMS, Bathinda - 151 001, Punjab, India.
E-mail: drpkc12@gmail.com

References

1. Singh AK, Singh R, Joshi SR, Misra A. Mucormycosis in COVID-19: A systematic review of cases reported worldwide and in India. Diabetes Metab Syndr 2021;15:102146. doi: 10.1016/j.dsx.2021.05.019.
2. Rao VUS, Arakeri G, Madikeri G, Shah A, Oeppen RS, Brennan PA. COVID-19 associated mucormycosis (CAM) in India: A formidable challenge. Br J Oral Maxillofac Surg. 2021;59:1095-98.
3. Waldron NH, Stolp BW, Ogilvie MP, Powers DB, Shaughnessy MR. Transorbital endotracheal intubation: A nonstandard approach to a difficult airway. J Clin Anesth 2016;34:314-7.
4. Wallet F, Chatain G, Ceruse P, Marcotte G, Gueugniaud PY, Piriou V. Transorbital fiberoptic intubation: A predictable difficult intubation in ce- phalic surgery. Ann Fr Anesth Reanim 2006;25:773-6.
5. Sander M, Lehmann C, Djamchidi C, Haake K, Spies CD, Kox MDW. Fiberoptic transorbital intubation: Alternative for tracheotomy in patients after exenteration of the orbit. Anesthesiology 2002;97:1647.

Access this article online

Quick Response Code:

Website: https://journals.lww.com/joacp

DOI: 10.4103/joacp.joacp_16_23

How to cite this article: Gupta M, Pruthi G, Saini V, Sharma J. Let awake transorbital fiberoptic intubation solve the triple trouble. J Anaesthesiol Clin Pharmacol 2024;40:707-8.

Submitted: 09-Jan-2023 **Revised:** 01-Feb-2023
Accepted: 03-Feb-2023 **Published:** 28-Mar-2024