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BLIND NASAL INTUBATION FOR EMERGENCY INCISION AND DRAINAGE OF LUDWIG'S ANGINA**RajannaKapanaiiah, Anusha Raj, NikhilaRajendra, Ravi Madhusudhana*.**

RajannaKapanaiiah, Associate Professor, Dept of Anaesthesiology, Sri DevarajUrs Medical College, Kolar,Karnataka, INDIA. Email:krajanna19@gmail.com

Anusha Raj, Resident Postgraduate, Dept of Anaesthesiology, Sri DevarajUrs Medical College, Kolar,Karnataka, INDIA. Email: anusharajleo@gmail.com

NikhilaRajendra, Resident Postgraduate, Dept of Anaesthesiology, Sri DevarajUrs Medical College, Kolar,Karnataka, INDIA. Email: nikhila.singh@yahoo.in

Ravi Madhusudhana, Professor, Dept of Anaesthesiology, Sri DevarajUrs Medical College, Kolar,Karnataka, INDIA.Email: ravijaggu@gmail.com

Abstract:

Necrotizing cellulitis affecting the posterior or pharynx, sub maxillary and sublingual spaces are called as Ludwig's angina. It can cause airway obstruction and airway compromise and death if not attended as an emergency incision and drainage. We present a case managed successfully by awake blind nasal intubation.

Key words: Ludwig's angina, Blind nasal intubation, Airway management

Introduction

Ludwig's angina is a rare but life threatening airway emergency. It is a diffuse cellulitis of submandibular space, easily spreads to sublingual space compromises airway and poses a challenge to anaesthetists [1]. Securing the airway is the primary concern.

The most common cause can be tooth extraction or dental infection which can be complicated by airway compromise or extension into the mediastinum or extension into deeper soft tissues like cervical fascia. The treatment involves appropriate antibiotics, airway control and surgical intervention (incision and drainage).

Case report

17 year old male, 60kg, with swelling of left side of face (Fig 1, 2) following tooth extraction, complained of difficulty in mouth opening. Afebrile; HR: 90/min; BP: 120mmHg; SpO2:100% on room air; RR: 20/min. System examination normal, Airway Assessment: Interincisor distance 1cm; Mallampatti class 4; Thyromental distance 5cm; Neck movements restricted; difficult intubation was anticipated. Routine investigations were normal. Due to unavailability of fiberoptic bronchoscope blind nasal intubation was planned. Informed high risk consent for

airway compromise and difficulty to incubate and sequences following that was taken including tracheostomy.



Fig-1: Showing edema of left side of face
18G IV cannula was secured. Patient connected to ECG, SpO₂ & non invasive BP monitors, RL started, aspiration prophylaxis given with Inj. Rantac 50 mg i.v and Inj . Emeset 4mg i.v. Superior laryngeal nerve block given with 2ml of 2% Inj. Lignocaine, Transtracheal block with 2ml of 4 % Inj.lignocaine to obtund the airway reflexes. Preoxygenation done with 100% oxygen for 3 minutes. Premedication with Injglycopyrrolate 0.2mg i.v &Inj fentanyl 60mcg i.v given. With the head extended , 7 size cuffed endotracheal tube passed through the right nares upto the glottis, trachea fixed with left hand and tube further passed into the trachea, confirmed by equal bilateral air

entry, cuff inflated and fixed at 26cm (Fig-3). Patient induced with Injpropofol, followed by InjAtracurium, maintained with O₂:N₂O: isoflurane. Intraoperatively vitals were stable. Pus drained from cheek and submandibular region, Tracheostomy done for post operative care. Reversal with Inj neostigmine 2.5 mg i.v and Injglycopyrrolate 0.4mg i.v given & patient extubated. Vitals in PACU stable &patient was shifted to the surgical ICU (Fig-4).



Fig-3: showing Nasal end tracheal tube insitu
Fig-4 showing post operative 7 th day

Discussion:

Airway compromise is associated with Ludwig's angina, and is the leading cause of death. Therefore, airway management should be the primary therapeutic concern. Ludwig and Grodinsky described it as cellulitic infection of submandibular space,

usually involving more than one neck space, producing firm in duration of floor of mouth and posterior displacement of tongue, and spreads by continuity along the fascial planes, then by lymphatic's and rarely involving the glandular structures [2]. Most common organisms involved are Streptococcus, Staphylococcus and anaerobes. It is the submandibular space which is the primary source of infection may follow dental abscess or dental extraction the infection spreads from the root of second or third molars to the sub maxillary space to the sublingual space and may spread contiguously to involve the pharyngomaxillary and retropharyngeal space [3]. Primary management of the patient involves appropriate antibiotic therapy covering grampositive, gramnegative and anaerobic infection. If Patients do not respond to antibiotic therapy or those associated with airway compromise do require surgical manipulation. Computed tomography or magnetic resonance imaging could be very useful in diagnosing the extent of spread and airway involvement [4]. Depending on the stage of the disease, comorbid conditions at the time of presentation, surgeon's experience, available resources, type of anesthesia can be chosen. Airway management may involve either conventional laryngoscopy, awake fiberoptic intubation, surgical tracheostomy under local anesthesia or cricothyrotomy in an extreme situation. Blind nasal intubation can be an alternative in the absence of an intraoral extension of the infection [5]. In the above situation, keeping in mind the high probability of bleeding and rupture of the swelling, due to patient refusal for tracheostomy under local anesthesia and non availability of fiberoptic bronchoscope during odd hours, blind nasal intubation following airway blocks was attempted with the surgeons being ready for emergency tracheostomy. In order to prevent post

operative stridor, tracheostomy was done before awakening the patient.

Conclusion:

Awake blind nasal intubation can be done but with the complications like trauma & aspiration while intubation. Awake tracheostomy can also be an option. Management must be individualized, depending on the judgment and experience of the Anesthesiologist and the surgeon.

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