

Lignocaine Nebulization for Pain Management of Superior Laryngeal Mass: A Simple Technique with Great Advantage

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ABSTRACT

Pain management is a crucial skill and area of concern for anesthesiologist. Different topical and regional block techniques have been developed to subdue pain reflexes. We report a case of superior laryngeal mass of cancerous origin with severe pain with VAS score of 10. This patient was successfully managed initially with repeated lignocaine nebulization and later with bilateral superior laryngeal nerve block for definitive pain management at our pain clinic. Lignocaine nebulization relived pain to VAS score 3 and after definitive treatment patient had complete pain relief. Lignocaine nebulization was observed to have utmost importance in initial management of grievous pain.

Keywords: *Lignocaine Nebulization, Superior Laryngeal Mass*

Introduction

Pain is a common and persistent symptom of any cancerous disease. It affects both physiologic and numerous psychosocial behaviors, many cases remain unreported. Small palliative care can work wonders to improve quality of life of pain sufferer. Most of the registries in western and central India have an age-adjusted incidence rate of cancer larynx between 3.5 and 5 per 100,000 population (Saurabh *et al.*, 2015). Nebulization of local anesthetics is one of the promising technique for anesthetized airway thoroughly without the need for multiple painful injections (Mathur *et al.*, 2018; Khandelwal *et al.*, 2018; Dhasmana *et al.*, 2015; Müller *et al.*, 2018). Here, we report a case in which lignocaine nebulization played a vital role as a part of multimodal analgesia in painful superior laryngeal mass.

Case Report

A 50 years old male patient came to our pain clinic with complain of severe aching pain in neck since 2 months. He had difficulty in talking, painful deglutition, dry cough, stridor, restlessness along with tenderness in neck since then. He was irritable & depressed. He was diagnosed with pulmonary tuberculosis 7 months back for which he has been on antitubercular drugs. Anterio-posterior & lateral X-ray neck showed tracheal compression and deviation at C3 to C5 (Fig. 1 and Fig. 2).

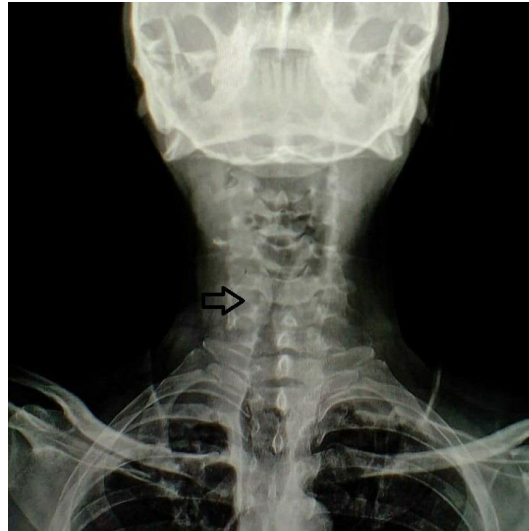


Figure 1: X-ray Neck- AP view



Figure 2: X-ray Neck-Lateral view

USG neck revealed bilateral multiple mass prominent on left side which was compressing left internal jugular vein. He didn't have any other comorbidity. In Indirect laryngoscopy, supraglottic mass

was seen but vocal cords could not be visualized. Biopsy report was suggestive of squamous cell carcinoma. Patient was taking Tab tramadol 50mg BD for pain relief in the ward. That gave transient relief in pain. So patient was referred to pain clinic for further management. On his first visit to pain clinic, VAS score was 8-10 & patients was too depressed. So, airway was immediately nebulized with 2% lignocaine 5ml in 3L/min oxygen under monitoring. Meanwhile Tab Tramadol 50mg & Tab Paracetamol 1gm was advised as a rescue analgesic whenever VAS score was > 4. Throughout the day VAS score was 3-5. The same nebulization was repeated twice a day regularly for 3 days. On 4th day for the definitive pain management, patient was brought to the OT for bilateral superior laryngeal block. Patient's vitals were within normal limits. USG guided block was performed under all aseptic precautions. Two ml of analgesic solution was injected on each side, which contained mixture of injection lignocaine 2% 20 mg, triamcinolone 40mg, tramadol 25 mg & normal saline. Patient was comfortable post-procedure. His VAS score was 3. On 7th day tracheostomy was done due to increasing stridor and associated discomfort. Later patient underwent chemotherapy.

Discussion

The huge superior laryngeal mass, obstructing upper airway is challenging not only for the anesthesiologist but also for the pain physician because of compromised airway. Sometimes it becomes very much difficult to maintain or manage painful & compromised airway with pharmacological means, which may result in life-threatening conditions.

Lignocaine is one of the most frequently used local anaesthetic in different concentration and in various forms through different route for different purposes. Besides regional nerve blocks, lidocaine has long been widely used to modulate the physiologic responses to tracheal intubation, extubation, emergence; to reduce the total dose requirement of all other analgesics, anaesthetizing upper airway for awake fiberoptic intubation, bronchoscopy (Mathur *et al.*, 2018; El-Hamid *et al.*, 2013). Sore throat and hoarseness in the first 24 hours after the procedure were among the most common complications of endotracheal intubation occurring in 21–65% of patients (El-Hamid *et al.*, 2013). Lignocaine was used through several routes such as intravenous injection, lubrication of endotracheal tube cuff, laryngo-tracheal instillation and nebulization for prevention of postoperative sore throat. Lignocaine nebulization is observed to be efficacious for sore throat in early postoperative period in many studies (Rao *et al.*, 2015; Mehrotra *et al.*, 2017). Nebulization has higher safety and ease of administration to the patient in addition to the benefit of the drug reaching distally up to lower airways (Khandelwal *et al.*, 2018). Lignocaine nebulization achieves effective airway anesthesia rapidly and well tolerated by patients with minimal side effects including dysphonia, oropharyngeal numbness, and bitter taste

(Truesdale and Jurdi, 2013). Simplicity and lack of discomfort are the major advantages of this technique. Nebulized lignocaine is easily available, easy to administer, cost effective, have short onset of action, minimal systematic effect and better hemodynamic stability (Lim *et al.*, 2013). Various studies suggested that the combination of nebulization and superior laryngeal nerve block techniques is better for adequately anesthetize upper airway structures for awake fiberoptic intubation (Mathur *et al.*, 2018; Khandelwal *et al.*, 2018) 2 % lignocaine nebulization alone provided acceptable conditions for awake fiberoptic intubation in TMJ patients (Rao *et al.*, 2015). One of the randomized, double-blind trial concluded that 2% lidocaine (4 mg/kg) nebulization reduced VAS score & distress significantly following nasogastric tube insertion in pediatric patients (Babl *et al.*, 2009). Endobronchial lidocaine via nebulizer was also well-tolerated during bronchoscopies under moderate sedation (Müller *et al.*, 2018) one of the study compared nasal spray and nebulization & observed better analgesic potency of nebulization for nasoendoscopy (Slaton *et al.*, 2013). Although nebulized lidocaine is not first-line therapy in intractable cough and asthma, it may provide an alternative treatment option in patients who cannot tolerate or are unresponsive to other treatments (Goh *et al.*, 2018).

Looking to these many boons, we tried using lignocaine nebulization along with psychological support to minimize the pain with immediate effect in our patient. Anaesthetizing the airway and psychological assurance is the main treatment goal of any throat cancer. Adequate pain assessment and proper pain management improves the quality of life and health. We found it to be very effective & simple strategy for initial pain management. Later for definitive pain management bilateral superior laryngeal block was performed that provided significant pain relief for extended period. Lignocaine nebulization can be tried in large number of patients having painful laryngeal mass to validate usefulness of this simple modality.

Conclusion

Lignocaine nebulization is effective analgesic modality for supraglottic cancers. It can be used more frequently in management for severe laryngeal pain. Not only it gives patient immediate pain relief but also time for definitive pain management.

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