Case Report

Severe Epiglottis edema after laryngeal mask airway ventilation

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ABSTRACT

We present a case in which epiglottis edema developed after laryngeal airway mask leading to strider. The condition was recognized quickly and managed appropriate with satisfactory outcome. (Rawal Med J 2007;32:199-200).

Key Words: Laryngeal airway mask, strider, epiglottis edema.

INTRODUCTION

The laryngeal mask airway (LMA) is being used with increasing frequency since its introduction in to the United States in 1991. Currently the LMA is being used in the United States in approximately one third of all operations or greater than 100 million surgeries. In Britain where it was first introduced for use in 1988,[1] the LMA is estimated to be used in up to 50% of cases. It is designed to be inserted into the hypo pharynx without laryngoscopy.[2] Not only has its use in elective cases increased, but the scope of indications for LMA has also grown. Its use in emergent and difficult airway management has increased, and new LMA products have been introduced to address the limitation of the classic model. As the LMA has increased in popularity, so has the incidence of LMA related complications. Cases of mucosal trauma, hematoma, tongue cyanosis, arytenoids dislocation, and lingual, hypoglossal, and recurrent laryngeal nerves paralysis have been documented.[3] Recent cases reports document instances of epiglottis edema after use of an LMA for GA.[4,5] We report a case of epiglottis edema which required tracheal intubation and mechanical ventilation for 24 hours.

CASE REPORT

A five months old male patient (weight 7.7 kg) experienced breathing dysphonia, suprasternal and intercostals retraction after right inguinal hernia repair and circumcission. The procedure was performed under general anesthesia by way of LMA. The induction drugs were atropine 0.01 mg/kg lidocain 1mg/kg, Nesdonal 5 mg/kg and fentanyl 1 µg/kg. The maintanance was

with N_2O 3 l/min, O_2 3 l/min and Halothane 1%. He had no periop erative history of head and neck pathology or noted no subjective change or difficulty with his voice before this procedure. The surgery lasted less than one hour and was other wise uneventful.

For post operative pain relief caudal analgesia was done by bupivacaine (0.25%) 1ml/kg.

We noted some hoarseness of his voice and inspiratory stridor, which persisted and was associated with intercostal and suprasternal retraction. He was supervised in recovery room with 8 l/min O_2 from face mask for 2 hours, but the condition didn't change. SPO_2 was between 83-89%. After midazolam 0.03 mg/kg and lidocaine 1 mg/kg, direct larynoscopy was performed by anesthesiologist. The epiglottis was edematous. The otolaryngologist in the operating room recommended for re-intubation. He was given dexamethazone 0.6 mg/kg IV stat and hydrocortisone 20 mg every 6 hours and was extubated after 48 hours. He received Naloxan 0.1 µg/kg and ceftriaxone 350 mg also. The patient was extubated after 48 hours and was in stable condition.

DISCUSSION

With increasing use, problems have been reported with the LMA, which include pulmonary aspiration, laryngospasm, need for neck extension in the patient with cervical spire disorder, and failure to function properly in the presence of local pharyngeal or laryngeal disease.[5]

With the high airway resistance associated with breathing through an orifice, a high level of "work of breathing " is required that make the patient quickly tire out.[6] Causes of postoperative stridor are edema of any of the supragolottic structures, bronchoscopy, vocal cord dysfunction (incomplete reversal of neuromuscular blockade), tumors and foreign bodies.[6] In this case there was obvious stridor and sever epiglottis edema after LMA usage.

The LMA has gained acceptance over the past several years as an airway management tool. Compared to the endotracheal tube, the use of an LMA allowed quicker and easier placement of the airway device by experienced personnel, improved homodynamic stability during induction and emergence, produced a minimal increase intraocular pressure following insertion, decreased anesthetic requirements for airway tolerance, decreased coughing and improved oxygen saturation during emergence, and had a lower incidence of sore throat in adult. The incidence of sore throat in children was similar.[7]

The use of the LMA in pediatric anesthesia is increasing. Those who have used it, have urged caution with its use, the anatomical differences between infants and children suggest that a

satisfactory position is more difficult to achieve in infants. It also appears that the LMA is not widely used when anesthetizing children under 1 year of age.[8] The infant has a relatively large tongue, the glottis lies higher and more anteriorly than in adult, while the vocal cords are angled more forwards and downwards. The epiglottis is large and floppy and may lie against the posterior pharyngeal wall which may cause airway obstruction. One difference between the adult and pediatric use of the LMA is the incidence of malposition as diagnosed by fiberoscopy.

To reduce the incidence of injuries from LMA anesthesia, it is recommended to use a standard insertion technique, know the standards for size selection and cuff inflation, recognize the signs of a malpositioned LMA early and asses the voice and respiration in the immediate postoperative period. In infants under 1 years of age the LMA usage needs continuous vigilance for airway obstruction and it is better to use ETT in this age group, to prevent such sever airway complications an in our case.

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