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CASE STUDY

ANAESTHETIC MANAGEMENT OF LASER REMOVAL OF RECURRENT LARYNGEAL PAPILLOMATOSIS WITH APNEIC ANAESTHESIA AND INTERMITTENT VENTILATION TECHNIQUE (AAIV)- A CASE REPORT

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ABSTRACT

Recurrent laryngeal papillomatosis is a rare chronic disease of viral etiology affecting most commonly larynx and paediatric age group. A 7 year old child with stridor was posted for laser excision of papilloma and managed with apnoeic anaesthesia with intermittent ventilation. The objective of our case was to review safety and efficacy of AAIV technique. At the end of case we observed. AAIV technique provides better visualization and immobile field for operation without any serious outcome. Thus we can conclude AAIV is an useful alternative technique for anaesthetic management of laryngeal papilloma.

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INTRODUCTION

Recurrent respiratory papillomatosis is a rare chronic disease of viral aetiology by human papilloma virus 6 &11, affecting most commonly larynx and seen most commonly in children. The surgical treatment includes laser ablation of the lesion. Anaesthesia for airway laser surgery presents the anaesthetist with challenges like shared airway with surgeons, narrow airway, post operative laryngospasm and oedema, laser safety precaution and prevention of airway fire associated with laser.The choice of anaesthetic technique directly influences ability of surgeon to perform laser resection

Case Report

A 7 year old child weighing 20 kg presented with complains of change in Voice and inspiratory stridor for 6 months. The symptoms were insidious in onset and gradually progressive in nature. The child was operated for similar complain 4 months back. No other significant medical or surgical history present.

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On examination child was averagely built and nourished,20 kg, pulse-98/ min, Blood pressure- 110/80 mm Hg. Airway management showed mouth opening and mallampatti grading normal. Routine investigations were normal. FNAC showed squamous epithelial papilloma. For preoperative prepration paediatric anaesthetic equipments, ET tube covered with foil paper/ laser resistant ET tube, 50 cc Syringes filled with saline,Wet towels were kept handy. The routine monitors SPO2, ECG, NIBP, $ETCO_2$ were applied. Preoperative vitals were noted. Pulse-80/min**,** BP-110/80 mm Hg. Preoxygenation with 100% o2 for 5 min with JR Circuit was done. IV line was secured using 22 Gauge intracath. Pre medication was givenInj.Glycopyrrolate-4ug/kg iv,Inj. Ondensatron 0.15 mg/kg iv. Induction was done with Inj. Propofol 2 mg/kg iv**,** Inj. Scoline 2 mg/kg iv. Patient was maintained on intermittent mask ventilation with oxygen, sevofluarne andInjAtracurium0.5 mg/kg iv loading and 0.125 mg/kg intermittently. No endotracheal tube was inserted. Mask ventilation was continued and after full relaxation and proper ventilation surgery started. Laser was inserted by surgeons. Our role was to closely observe saturation; whenever Spo2decreased by 92% surgeon was asked to remove laser and again mask ventilation was done. This was done thrice and after removal of papilloma patient was intubated with 3.5 no.

Uncuffed ET tube and nebulisation was done with Inj Salbutamol through it to decrease chances of post operative laryngeal oedema. Post operatively patient was observed for difficulty in respiration to rule out chances of laryngeal spasm or oedema.

DISCUSSION

Anaesthesia for airway laser surgery presents to the anaesthetist with number of problems like shared airway with surgeons, narrow airway, and hemodynamic changes associated with laryngoscopy, post operative laryngospasm and oedema, laser safety precaution and prevention of airway fire associated with laser. Choice of anaesthetic technique directly influences the ability of surgeon to perform laser resection. A favourable outcome therefore requires a high level of communication and cooperation between anaesthesiologist and surgeon.

Three ventilation techniques are available for laser airway surgery

1) Use of laser resistant ET Tube- Best way but expensive and interruption in field of surgeon
2) Protection of external surface of conventional tube-chances of airway fire
3) No tube in airway (AAIV technique)-reduces risk of fire occurring in upper airway and provide better visualisation to surgeon.

Conclusion

AAIV technique provides a good visualisation and immobile field for operation and reduces risk of fire occurring in upper airway .But it also requires very good communication and cooperation between anaesthetist and surgeon.

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