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A CASE SERIES DISCUSSING UNCONVENTIONAL TECHNIQUES OF DIFFICULT AIRWAY MANAGEMENT

Anesthesiology

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ABSTRACT

Difficult airway defined by American Society of Anaesthesiologist (ASA) as, "clinical situation in which a conventionally trained anaesthesiologist experiences difficulty with mask ventilation, difficulty with tracheal intubation or both." Anaesthesiologists come across difficult airway very oftenly with patients having large neck swelling causing distortion of airway, restricted mouth opening, facial deformity, intraoral masses etc. Nowadays there is availability of newer unconventional techniques for managing difficult airway like fiberoptic bronchosope, video larygoscopes, supraglottic airway devices including fastrach, intubating laryngeal mask airway, retrograde intubation technique & many more.

This is the case series study of 4 cases- Ludwig's angina, lipoma neck, thyroid, osteoblastoma of mandible with all presenting as difficult airway & its management.

This study presents successful management of difficult airway by various unconventional intubation techniques.

KEYWORDS

difficult airway, unconventional intubation.

INTRODUCTION:

Difficult airway defined by American Society of Anaesthesiologist (ASA) as "Clinical situation in which conventionally trained anaesthesiologist experiences difficulty with mask ventilation or tracheal intubation or both."

Incidence of difficult airway: 1-8%.

Conditions responsible for difficult airway:

- Large neck swelling causing distortion of airway
- Restricted mouth opening
- Facial deformity ,trauma
- Intraoral masses
- Morbid obesity etc.

For successful management we need to:

- Determine optimal intubation technique
- Elicit thorough airway history
- Careful examination of patient's head & neck with different screening tests.

Aim: To study successful management of difficult airway by newer unconventional techniques for intubation, like-

- Fiberoptic bronchoscopy
- Video larygoscopy
- Supraglottic airway devices including fastrach, intubating laryngeal mask airway
- Retrograde intubation technique etc.

This is the case series study of 4 cases:

- Ludwig's angina
- lipoma neck
- submucous fibrosis
- morbid obesity with oral malignancy

METHODS:

Detailed clinical examination and investigations were done preoperatively. Informed consent was taken from patients. Cardiac monitor, noninvasive blood pressure, & pulse oximeter were used for monitoring. Baseline pulse rate, systolic and diastolic blood pressure, mean arterial pressure (MAP), respiratory rate, SpO2 were noted. Intravenous line was secured with 18 G angiocath in large peripheral vein. Inj. Glycopyrolate 0.2 mg intravenously given. Airway preparation done with xylometazoline nasal drops, 4% lignocaine (4ml) nebulization & 10% lignocaine spray.

Tabular Presentation Of Anaesthetic Management Of Difficult Airway By Unconventional Techniques For Intubation

CASE	Ludwig's Angina	Lipoma Neck	Morbid Obesity with Oral Malignancy	Submucous Fibrosis
SURGERY	Incision & Drainage	Excision	Hemiglossectomy + Radical neck dissection	Release
PREOPERETIVE	 30 year male with neck swelling with pus discharge since 4 days following dental caries	 65 year male with right side neck swelling since 8-9 yrs	 50 year male with morbid obesity with Ca toungue	 35 year female with inability to open mouth since 3 years
DIFFICULTIES ENCOUNTERD	• Reduced intraoral space due to elevation of floor of mouth by neck abscess • Possibility of rupture of abscess into airway	• Large neck swelling causing deviation & compression of trachea	• Short neck • Intraoral malignancy with reduced mouth opening • Difficult to ventilate • Misalignment of oral, pharyngeal, laryngeal axes	• Restricted mouth opening causing laryngoscope introduction difficult

TECHNIQUE				
	 Awake Nasal Fiberoptic Intubation	 Awake Oral Fiberoptic Intubation	 Awake Blind Nasal Intubation with North pole Endotracheal Tube	 Retrograde Intubation

RESULT:

All above 4 cases of difficult airway were managed successfully by using unconventional techniques for intubation, without any complications.

DISCUSSION:

Before advent of these unconventional techniques such cases were managed by blind nasal or if unsuccessful by surgical airway (tracheostomy). All above 4 cases of difficult airway were managed successfully by these techniques with proper preparation of patients. Patients were fully conscious & spontaneously breathing till we secured the airway. By these techniques we can overcome the situation of "CAN NOT VENTILATE - CAN NOT INTUBATE" without any complications & avoiding risk of surgical airway intervention or tracheostomy.

CONCLUSION:

Successful management of difficult airway depends on knowledge of abovementioned unconventional techniques, skills , experience of anaesthesiologists & availability of associated equipments. Anaesthesiologists should get acquainted himself with these unconventional techniques of intubation so as to reduce airway morbidity & mortality.

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