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Case Report

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RETROGRADE INTUBATION IN A MAXILLOFACIAL TRAUMA

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ABSTRACT

The normal anatomy of the face and airway is mostly distorted in trauma of the face making it an anticipated difficult airway. Most of the trauma cases are managed in a small remote setup, initially. Involvement of the Airway is even more difficult to manage in a peripheral setup in the absence of latest gadgets and trained expertise. Techniques recommended by the difficult airway society (DAS) for securing the airway are Fibreoptic Endoscopy, Virtual Endoscopy, Videolaryngoscopy and Emergency Surgical Airway. At hospitals, where most of the post traumatic difficult airway cases come, such devices are not available. With only one trained anaesthesiologists and limited resources securing such airways is extremely difficult. In such scenarios using old conventional methods, which are less equipment dependent, need to be resorted to secure the airway.In such a scenario Retrograde Intubation can be considered as a better option for securing the airway. In an emergency situation it can be easily performed even with the available equipments with limited expertise.

KEYWORDS: Difficult Airway, Maxillofacial Trauma and Retrograde Intubation.

INTRODUCTION

A difficult airway, even an anticipated one, is a nightmare for any anaesthesiologist. Inability to secure an airway can have rapid adverse events such as hypoxic brain damage or death.[1] Management of difficult airway has been formulated by many societies but a high level of expertise and equipments are required for securing the airways.[2,3] Emergency Difficult airway situations encountered in many hospitals are difficult to manage as there is lack of equipment and expertise trained to handle such situations.[4] In an article published off late in a leading journal it was found that non teaching hospitals were deficient in management of Difficult Airway equipments and even if they were present, there was lack of expertise in handling them in times of emergency.[5,6]

CASE REPORT

A 42 yrs old biker after sustaining a severe Road Traffic Accident was brought to the Emergency Department of the hospital. He had sustained a severe Maxillofacial injury along with some injuries to his right leg as well. He had sustained fractures of the Rt maxilla, Rt zygoma, mandible and palate in addition to fracture of the right tibia. His Glasgow Coma Scale was 15/15 and he had no lateralising signs. His abdominal and chest examination was normal. He was bleeding profusely from his wounds and must have lost 1000 to 1500 ml of blood since his accident.

On his arrival to the hospital he was in shock. He had a Pulse of 130 / min and a BP of 96/54 mm of Hg. His respiration was laboured and adventitious sounds could be heard. His maxillofacial wounds were bleeding and some of the blood had entered the airway. On a primary survey his airway was compromised and he was in Hemorrhagic Shock. On close examination his tongue was cut into two pieces. He had his dinner at 8 pm before going out on his motorcycle ride. The accident had occurred an hour before he was brought to the hospital.

Immediately, taking complete universal precaution, two wide bore cannula were put in both his hands and warmed isotonic crystalloids was infused as fast as

possible. The airway was suctioned of the blood and saliva and oxygen was administered with a cannula in the nose. The victim was connected to monitoring devices such as ECG, Non Invasive Blood Pressure monitor and pulse oximetry. He was administered analgesics, Tetanus Toxoid and antibiotics. Securing the airway was a priority and the difficult airway algorithm was followed.

The anatomy of the airway was so much distorted that nothing could be identified. On moving the mandible the mouth opening was impaired because of multiple fractures of the mandible. The use of a supraglottic airway device was not possible as the airway was badly damaged and the patient had taken a meal an hour ago. No Fibreoptic Bronchoscope (Airway intubation Device) was available in this hospital. No expertise in tracheostomy, percutaneus tracheostomy and cricothyrotomy was available for securing an Emergency Surgical Airway. The patient's condition was deteriorating fast and he was desaturating even after supplemental oxygen was being administered at high flow rates.

It was decided to secure the airway either by a cricothyrotomy or retrograde intubation. It was decided to perform a retrograde intubation to secure this anticipated difficult airway. His neck was cleaned and the cricothyroid membrane was identified. A needle was passed into the membrane and a guidewire of a central line was passed cephalad. The guidewire was visualised on laryngoscopy in the post pharyngeal wall and was extracted with the help of a Magills forcep. A 7.5 mm ID PVC Endotracheal Tube was railroaded onto the wire and the airway was secured. Suctioning of the airway delivered 50 to 60ml of aspirated blood. The tube was connected to the Bain breathing system and 100% oxygen was administered. The condition of the patient improved and he was taken up for definitive surgery.

DISCUSSION

Anaesthesiologists are experts in managing airways but sometimes not only intubation but also ventilation is extremely difficult. Most of the congenital syndromes with facial anomalies present as difficult airways. But such cases are taken up for surgeries in expertise and equipment available hospitals. When a difficult airway presents in an emergency in a remote hospital then securing the airway becomes extremely difficult within limited resources and manpower within the constraints of time.

Although many difficult airway devices, monitoring devices and medications are now available in these remote hospitals but still securing the anticipated difficult airway is a gruesome task and given an option any anaesthesiologist would have a tough time. The gold standard airway securing device in such situations is a Fibreoptic bronchoscope, but it is not readily available in all hospitals and if available it is in the OT.[7,8] Many a times these cases need to be managed in Non Operating Rooms and in Emergency Rooms as there is no time to shift the patient to the OR. With the expertise, trained manpower and the gadgets available to the anaesthesiologist, such difficult airway needs to be secured. In such situations use of old conventional methods can be resorted to.

Declaration of Patient Consent

The author certifies that the patient has given his consent for images and other clinical information to be reported in the journal. He understands that names and initials will not be published and due efforts will be made to conceal patient identity.

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Conflict of interest

There are no conflicts of interest.

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