ANAESTHETIC MANAGEMENT IN CUT THROAT INJURIES

(A Report of Two Cases)

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Introduction

Anaesthetic administration in a traumatized patient poses peculiar problems [1]. The anaesthetic techniques by and large depend on the site and nature of injury. Two cases of cut throat injury are presented because of the marked similarity in their presentation and management. In one, the injury was just above the larynx, the offending object being a piece of glass pane; in the other it was at the level of larynx but above the vocal cords, the offending object being a sharp indigenous knife. Trauma to the neck creates unique airway problems in which mask ventilation and laryngoscopy may be futile.

Case Report

Case 1

A 24-year-old male brought to the operation theatre of the hospital direct from a peripheral MI room with the history of injury in front of the neck by a sharp broken piece of glass pane. Enroute the patient had cardiac arrest twice and the bleeding could not be kept under control nor could venous access be achieved. During the transit period in the ambulance the cardiac rhythm after the arrests was spontaneously restored the moment the packs by which local pressure on the bleeding wound were removed and external cardiac compression commenced. The periods of arrest did not exceed 2 minutes on each occasion. On arrival in the theatre the patient was in severe haemorrhagic shock due to exsanguination. While shifting onto the operation table he again arrested because of airway obstruction due to flexion movement of the neck. The period of arrest was not more than 15-30 seconds and the cardiac rhythm was restored as soon as the neck was extended.

The neck wound was approximately 6 inches in length with jagged margins and distorted anatomy. Ventilation was taking place via this open wound. A cuffed endotracheal tube was guided manually through the wound into the laryngeal inlet after palpating it with the finger tips. Complete extension of the neck was necessary to achieve this manoeuvre. On securing the airway, local compression over the injured site was instituted to stop bleeding. The services of the surgical and ENT specialists were sought.

Crystalloids/haemaccel were rapidly infused. Blood however,

could only be given after 2 hours.

Anaesthesia was commenced with injection Ketalar and patient kept on spontaneous respiration. Once the tracheostomy was performed, the endotracheal tube (ETT) was removed and conventional anaesthesia using gas/oxygen/relaxants was continued via the tracheostomy. A nasogastric tube was inserted prior to surgical closure of the wound.

Post-operatively the patient was on intravenous fluids for 48 h and subsequently on nasogastric feeds. The tracheostomy was closed on the 7th post-operative day and oral feeds were started by the 10th day. Though, recovery was uneventful the post operative period was hectic because of severe episodes of depression and violence which necessitated psychiatric consultation.

Case 2

A 22-year-old male was also first attended in the operation theatre with a history of a self inflicted injury to the anterior aspect of the neck with a sharp indigenous knife having an 8 inch long blade. He was in moderate degree of shock, apparently there was not much bleeding and one could make out that respiration was taking place via the wound. The wound itself was approximately 5 inches in length with fairly neat incised margins. The cartilaginous portion of the thyroid cartilage could be identified. The patient was conscious and alert.

Initially a central venous access was achieved via the right subclavian. Anaesthesia was commenced with injection Ketalar and airway secured by passing a cuffed ETT through the laryngeal inlet with the neck in extension. Subsequently, the anaesthetic technique was essentially as in the case already mentioned.

Post-operative recovery was good and tracheostomy closure was accomplished by the 10th day. The post-operative period again was hectic because the patient had features of schizophrenia necessitating psychiatric therapy.

Discussion

Speed of delivery from the street to the operation theatre has become the cornerstone in the management of traumatic injuries. Obtaining history and physical examination for the anaesthesiologist will be fragmented by time constraints and therefore some important facts pertaining to management may be missed. Though, our set up is not geared up to the ideal set up

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for trauma management, our patients were fortunate to survive, because for them things worked as though we were working in ideal conditions. The patients reached the operation theatre direct which was ready to receive them. The anaesthesiologists, surgeons and ENT surgeon could be summoned immediately and the theatre and staff were in readiness.

Cut throat injuries by definition are injuries over the front of neck by sharp instruments using a long blade with a murderous intent. Surprisingly, both these cases were not homicidal but suicidal in nature; and though the post operative recovery was uneventful the post operative period was very turbulent for both the patient and nursing staff because of the psychiatric overlay.

Such injuries have two things in common namely airway compromise and injury to the vasculature. Airway management is a very critical factor in such patients and must be given the first priority. Percutaneous tracheostomy for urgent management of airway access following trauma of the neck has been advocated when acute airway obstruction due to oedema of tissues occurs [2]. The role of tracheostomy in the management of these cases cannot be over emphasized. However, in no way was it the first measure to be resorted to as the airway obstruction could be relieved simply by the extension of the neck. Even slightest flexion of the neck will tend to block the airway as the patient is breathing via the open wound. Mask ventilation in our patients was out of question and the only alternative was to gain access to the trachea as soon as possible. Laryngoscopy too, was futile as nothing could be visualized because of the blood, oedema, haematoma within the pharyngeal structures together with loss of integrity of the muscular support of the larynx. A tubular laryngoscopy blade may be of help in such injuries [3]. It is highlighted that the first case had a cardiac arrest twice during transportation due to inadvertent obstruction of the airway during attempted local pressure to stop the bleeding and once while shifting onto the operating table due to flexion of the neck. Cardiac arrest all three times had occurred secondarily due to airway obstruction and each time that was removed, the cardiac activity restarted after the external cardiac massage. Management of obvious bleeding sites by local pressure is usually advocated. In both the cases this act was not without danger to obstruct the airway. Inefficient local pressure application for controlling bleeding by the medical officer during transportation helped the patient to survive. In-

fact he had caused cardiac arrest twice during application of effective pressure by simultaneously obstructing the airway. Bleeding in the first case was more due to injury to the soft tissue structures. Locating the laryngeal inlet in this case was also technically more difficult due to the extensive haemorrhage locally and also less clean cut when compared to the second case.

Central venous cannulation by the internal jugular route is a difficult proposition in neck injuries and therefore subclavian route (infraclavicular approach) was chosen; though femoral route could also have been done. A shocked patient could do well in a Trendelenburg position. In these two cases a head down tilt was probably helpful in preventing venous air embolism via the major neck veins that had been injured.

Induction of anaesthesia by inhalational technique by face mask was not possible and induction with thiopentone was not without danger. Under the circumstances, Ketamine served a very useful agent for induction.

Tracheostomy is an important measure from both the anaesthetic technique point of view and also to have a clear field for surgical repair. Apart from this, to cater for post operative oedema and possibility of airway compromise it is a mandatory requirement. In this context passage of a nasogastric tube intraoperatively and fixing it prior to completion of the surgical repair is essential. Technically, tracheostomy would be difficult if the injury was below the cricoid. May be use of a Motando type tube would be a logical choice if the trachea was severed.

Both patients had excellent recovery as far as their injury was concerned. There was no dysphagia, dysphonia or dyspnoea when assessed after 3 months. Their psychiatric problems however, had not yet been overcome after 1 year of psychiatric treatment. It is only conjectured that if they land up in a similar situation again we may not be able to deal with them as efficiently.

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