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Case Report.....!!!

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EMERGENCY PERCUTANEOUS TRACHEOSTOMY IN A CASE OF BURN OF FACE, HEAD AND NECK-CASE REPORT

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ABSTRACT

Here we report a case of a 41 year old man a case of burn of face, head and Neck. Attempts at orotracheal intubation were unsuccessful and laryngeal mask was used; thereafter, an emergency percutaneous tracheostomy was performed. The Percutaneous Tracheostomy technique may be useful in similar patients who need emergency airway access.

INTRODUCTION

Percutaneous Tracheostomy is an accepted means of accessing the airway to provide mechanical Ventilation. First described in 1985 by Ciaglia and Coworker,¹ this technique has become widely used in the intensive care unit, where it can be performed quickly at the patient's bed side. It is primarily used for ventilator- dependent patients in whom tracheostomy can facilitate clearing of secretions and weaning from the ventilator. Schachner and associates² described a rapid percutaneous tracheostomy technique for use in mass casualty. And emergency situations; However, the use of this technique raises concern of the safety and spine stabilization. Many physicians advice against a percutaneous tracheostomy in the emergency setting and recommend a cricothyroidotomy instead. Others resort to percutaneous Technique only after orotracheal intubation fails.^{3,4} We describe a case of burn of face and head and neck in which an emergency percutaneous tracheostomy was used to salvage the patient.

Case Report: We report the life saving use of Griggs percutaneous Tracheostomy in a patient with upper airway obstruction as a result of burns of the face and head and neck, smoke injuries, and failed tracheal intubation attempts. 41 year old patient was admitted to the intensive care unit with severe burns, smoke injuries and acute respiratory and circulatory failure 18% of the total body surface area was burnt and respiratory tract was effected by smoke inhalation, resulting in severe acute respiratory distress syndrome. On admission, the patient was tachypnoeic(>35/Min), prominent accessory muscles of neck, retraction of intercostal spaces, inspiratory stridor, and thoracoabdominal disc ordination. Blood pressure was 90/50 mm Hg and pulse rate was 90 beats per minute. Oxygenation was poor (SpO2 60%), manual ventilation through a self inflating beg was not effective. Orotracheal intubation was attempted twice but unsuccessful. There was obviously no time to use a flexible fiberscope for reintubation at this stage. Laryngeal mask was inserted (Fig -1).

At this point of emergency PCT, using the Grigg's technique, was immediately performed without aseptic care and 9 mm internal diameter tracheostomy tube was successfully inserted in less then 1 minute (Fig-2). Mechanical ventilation was immediately reinstituted and the haemodyanmic parameters improved.

There was no procedure related early or late complications. There was no sign of infection at the tracheostomy site. The patients hospitalization was protracted because of ventilator-associated pneumonia and he was discharged from hospital two months later. Tracheal cannula was removed without any complications.



Fig-1



Fig-2

DISCUSSION

In recent years, PCT has become a routine practice in many Hospitals. Different PCT techniques have been developed over the years (Ciaglia, a technique used in multiple dilators; Griggs, Using guide wire- dilating forceps ; Blue Rhino; Perc twist ;and Fantoni). PCT is an established, safe, time saving and cost effective option for most patients. Bed side PCT has been shown to be as safe and effective as surgical technique, but with an added advantage of also being technically straight forward and cost efficient. Earlier adverse conditions such as a short, fat Neck or obesity were regarded as contraindications, and cervical injury, coagulopathy, and emergency situations as absolute contraindications. More recently, several reports have demonstrated the feasibility of PCT in patients with some of these contraindications. The PCT procedure has become routine in many centers. A significant number of articles have been published comparing various PCT techniques to open surgical Tracheostomy. As also one to another ⁵. Majority of comparisons of PCT to open surgical tracheostomy have demonstrated either lower complication rates associated with PCT or no statistical differences between the two ⁶. An open tracheostomy is the gold standard for establishing long term airway access. However, as this procedure is time consuming and often difficult in an emergency setting, it is not generally recommended for emergency cases. Cricothyroidotomy can provide rapid airway access in an emergency and remains the standard treatment, but ventilation may be difficult, particularly in patients who have

pulmonary oedema with decreased pulmonary compliance. Although not widely investigated in the emergency setting, PCT can be applied quickly and easily by experienced hands. The techniques can be performed blindly at the patients bedside. In the Griggs technique dilation of tracheal aperture is achieved by passing a dilating forceps over the guide wire, into the trachea. Opening these forceps which resemble nasal speculum, forcibly dilates the tracheal aperture and any intervening tissue. The tracheostomy Tube is inserted over guide wire catheter. The guide wire is removed and replaced by the tracheostomy Tube inner cannula, and then the patient is ventilated through the tracheostomy tube. Although the use of Bronchoscopy is helpful in several situations in the intensive care setting, the time taken to perform a difficult intubation. Using a flexible fiberscope, as also the procedures effectiveness and complications, have not been sufficiently well investigated in life threatening situations to be recommended at this stage. The choice of the Grigg's technique instead of other per cutaneous devices in our patient was supported by the reduced time taken to perform the Procedure, Compared to other forms of percutaneous Techniques. Although the average time required is about 5 minutes in most reports, it can be performed more rapidly in experienced hands⁷. All emergency procedures can be characterised by their effectiveness, potential complications, and time taken to perform them, But the choice of the right technique in the right patient depends on variety of factors, including the operators experience, the patient's anatomical condition, and range of devices immediately available. We describe the use of Grigg's Technique of PCT to establish an airway in a burn patient with circulatory failure and complete upper airway obstruction, in addition to altered neck and tracheal anatomy.

CONCLUSION

Percutaneous Tracheostomy has already replaced the surgical route in several intensive care units. And it is indeed the procedure of choice in the majority of cases. This is attributable to the fact that, in experienced hands, it is safe, easy and quick, and there is no need to move the patient to the operating room. With proper patient selection, Surgeon's experience, complication rate can be reduced that may have an influence on late complications.

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