

OUTCOME OF EARLY TRACHEOSTOMY IN INTENSIVE CARE SETTING

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ABSTRACT

Results of 130 tracheostomies performed within 5 – 7 days of admission in intensive care unit with acute neurological deficit were collected, with nosocomial pneumonia and mortality within 28 days as outcome parameters. There were 37 deaths (28.5%) and 4 cases (3.1%) of nosocomial pneumonia in subjects. Early tracheostomy was found beneficial in patients admitted in intensive care unit.

INTRODUCTION

Tracheostomy is a procedure commonly performed in patients admitted to intensive care unit with severe brain injury who need mechanical ventilatory support¹. This is considered useful in long term airway maintenance, because of the need for less sedation and analgesia, easier weaning and suctioning of pulmonary secretions.²

Despite being a relatively safe procedure, tracheostomy is associated with complications such as infection at the incision site, bleeding, subcutaneous emphysema, pneumothorax, tracheomalacia, tracheal stenosis and negative impact on quality of life.^{3, 4} In most clinical settings the decision to proceed to tracheostomy is often made if patient is not expected to be extubated for 10 – 14 days or more.⁵ Despite many studies in literature, there remains a controversy for the timing of tracheostomy. This study was done to evaluate the outcome of early tracheostomy in patients with acute severe neurological deficit in intensive care unit with nosocomial pneumonia and mortality as outcome measure.

Age in years	No. of patients	Percentage
20– 30	63	48.5
31 – 40	31	23.8
41 – 50	19	14.6
51 – 60	17	13.1
Range	20 – 60	

PATIENTS AND METHOD

This study was carried out in ENT department Lahore General Hospital Lahore in collaboration with intensive care unit Lahore General Hospital

Lahore between period of 14-09-2011 to 15-09-2012. 130 cases of tracheostomy both male and female between the age of 20years to 60years and with the

diagnosis of acute brain injury due to CVA, meningitis, epilepsy and physical brain trauma were included in the study to determine the outcome of tracheostomy. Patient with history of trauma but admitted to ICU for other reason like liver and renal failure, readmission to the ICU and trauma referral from other hospitals were excluded from the study. Tracheostomy was considered early if done within five days of acute injury which was defined as history of sudden neurological deficit and GCS level less than 8 within 48 hours of admission. Urine and blood samples an initial X-Ray chest, CT & MRI brain were obtained in all cases. X-Ray was repeated after seven days of tracheostomy for assessment of Nosocomial pneumonia which was defined as fever more than 102 f, sputum, harsh crepts on auscultation, and consolidation on x-ray.

The data was checked after 28 day for motility. All Tracheostomies were performed by specialist ENT surgeons having at least four years experience of doing tracheostomy.

RESULTS

The mean age of patients was 35 years with age range of 20 to 60 years

Age Distribution

Sex distribution was 73 (56.2%) males and 57 (43.8%) females

Nosocomial Pneumonia was seen in 4 patients (3.1%)

28 days mortality was seen in 37 patients (28%).

DISCUSSION

Tracheostomy is a common procedure in ICU patients admitted due to various disorders. Controversies still exist about the right timing of performing a tracheostomy.^{5,6} Some surgeons advocate an early

tracheostomy while others want to continue with endotracheal intubation for as long as 4 weeks before tracheostomy is finally advised 7,8 . Although there is no denial about efficacy of tracheostomy in the intensive care patients with neurological deficit, issue of timing still remains unsettled. In this study an attempt was made to ascertain the efficacy of early tracheostomy by accessing Nosocomial pneumonia and mortality as outcome measures. In the present study 4(3.1%) patients out of 130 developed nosocomial pneumonia. As occurrence of nosocomial pneumonia is not significantly higher in patients who do not undergo tracheostomy (about 6%). This outcome measure was not significantly helpful in determining the efficacy of early tracheostomy 9. As regard to mortality as outcome measure, the results did favour early tracheostomy by showing a low mortality rate. (28.5%) in patients with early tracheostomy as compared to patients with delayed tracheostomy or prolonged endotracheal intubation (42%)6. Mortality within 28 days was used to equate the results of early tracheostomy with endotracheal intubation as proponents of endotracheal intubation tend to persist with endotracheal intubation for at maximum of 4 weeks. Various other studies also show that complications of tracheostomy are significantly lower than endotracheal intubation.12

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