

THE IMPACT OF TRACHEOSTOMY TIMING (EARLY & LATE) ON SEVERE HEAD INJURY PATIENTS TOWARD CLINICAL OUTCOMES

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INTRODUCTION

Severe head injury patients require a specific treatment plan and nursing care to achieve an optimal clinical outcome while mild head injury patients may need a few days of hospitalisation for close monitoring and conservative medical administrations. However, in severe head injury cases, the patients may require a more extended period of hospitalisation for a series of complex neuro-medical and neurosurgical management. Tracheostomy may be performed on head injury patients with protracted breathing problems. Early tracheostomy (ET) may improve clinical outcomes late tracheostomy. ET is defined as the tracheostomy done seven days after the initiation of endotracheal intubation.

RESULTS

The multivariate analysis showed a significant association between tracheostomy classification (early and late) toward the LOS in the hospital ($p=0.035$) and MV used ($p=0.005$).

Classification of patient's tracheostomy status (n=45)

Variables	n	%
Early Tracheostomy (ET)	21	46.7%
Late Tracheostomy (LT)	24	53.3%

Association of Tracheostomy Classification & Clinical Outcomes

Clinical outcomes	OR	95% CI	P-value
SOFA score	1.025	0.399 – 2.629	0.960
SAPS II score	0.962	0.835 – 1.109	0.597
LOS in ICU	1.115	0.053 – 23.580	0.944
LOS in hospital	5.737	1.126 – 29.229	0.035
MV duration	39.68	3.347 – 95.56	0.005
GCS upon discharge	0.562	0.251 – 1.258	0.161
Pneumonia	0.551	0.038 – 7.970	0.662
Decannulation rate	1.226	0.075 – 19.999	0.886

DISCUSSIONS AND CONCLUSIONS

The finding of this study is consistent with the previous study by Shibahashi et al. 2017, Robba et al., 2020 and Qureshi et al. 2015; between LOS in hospital and clinical outcomes. This study also recorded a significant association between tracheostomy classification with the duration of mechanical ventilator support (p -value=0.005). However, although it was shown to be significant, the 95% confidence interval was huge, between 3.347 - 95.56, it may be potentially due to the sample size issue.

However, the association between tracheostomy categorisation and ICU LOS, incidence of pneumonia, decannulation rate, and GCS at discharge was not statistically significant in this study. A larger sample size and a longer period of data collection are required to determine a convincing significant association between tracheostomy classification and clinical outcomes related to it.

METHODS

A retrospective cohort study design was done involving 45 severe head injury patients at two Neuro-Centre hospitals in Malaysia from January 2021 until December 2021. The participants had been classified into two groups which are early tracheostomy (ET) and late tracheostomy (LT). The clinical outcomes includes the participant's GCS, length of stay in ICU and hospital, incidence of pneumonia, duration of mechanical ventilation and decannulation rate

PURPOSE

This study aims to determine the impact of ET on the patient's clinical outcomes

RECOMMENDATION

Despite sociodemographic data, items such as participants' medical history, financial and level of education, were not included. Thus, for future study is recommended that larger sample size with an additional outcome such as mortality rate, nosocomial infection, in-hospital rehabilitation compliance etc should be measured.

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