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Early versus Late Percutaneous Tracheostomy in Critically Ill Adult Mechanically Ventilated Patients

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Abstract : Introduction: Critically ill patients frequently require tracheostomy to simplify long term air way management. While tracheostomy indications have remained unchanged, the timing of elective tracheostomy for the ventilated patient has been questioned. Aim of the work: This study was performed to compare the differences between early and late percutaneous dilatational tracheostomy (PDT) regarding, mechanical ventilation duration (MVD), length of ICU stay, length of hospital stay, incidence of ventilator associated pneumonia and hospital outcome. Patients and methods: Forty patients who met the inclusion criteria were randomly divided into early PDT who had the tracheostomy within the first 10 days of mechanical ventilation (MV) and the late PDT who had the tracheostomy after 10 days of MV. On admission, demographic data and Acute Physiology and Chronic ill Health II and GCS were collected. The duration of mechanical ventilation, ICU length of stay (LOS) and hospital LOS were all calculated. Results: Total of 40 patients were randomized to either early PDT (n= 20) or late PDT (n= 20). There were no significant differences between both groups regarding demographic data or the scores: APACHE II (22.75± 7 vs 24.35 ± 8) and GCS (6.10 ±2 vs 7.10 ± 2.71). An early PDT showed fewer complications vs late procedure, however it was insignificant. There were significant differences between the two groups regarding mean (MVD) which was shorter in early PDT than the late PDT group (32.2± 10.5) vs (20.6 ± 13 days; p= 0.004). Mean ICU stay was shorter in early PDT than late PDT (21 .0± 513.4) vs (40.15 ±12.7 days; p 6 0.001). Mean hospital stay was shorter in early PDT than late PDT (34.60± 18.37) vs (55.60± 25.73 days; p=0.005). Patients with early PDT suffered less sepsis and VAP than late PDT, there was no difference regarding the mortality rate between the two groups. Conclusion: Early PDT is recommended for patients who require prolonged tracheal intubation in the ICU as outcomes like the duration of mechanical ventilation length of ICU stay and hospital stay were significantly shorter in early tracheostomy.

Keywords : intensive care unit, early PDT, late PDT, intubation
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