

A COMPARISON OF UNPLANNED EXTUBATIONS BETWEEN MEDICAL AND SURGICAL PATIENTS: TWO-YEAR EXPERIENCE IN TAIWAN

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BACKGROUND/AIMS: Unplanned extubation (UE) is a frequent complication following endotracheal intubation. We investigated the differences between medical and surgical patients who experienced UE in the adult intensive care unit (ICU).

METHOD: A cohort, retrospective, observational study enrolled all adult UE patients admitted to the ICU from July 1, 2003 to June 30, 2005.

RESULTS: One hundred and sixty-six medical patients and 133 surgical patients experienced UE during the study period, representing 4.0% and 3.4% of all mechanical ventilations, respectively. We found a lot of differences between these two groups. For example, the medical patients exhibited a higher acute physiological and chronic health evaluation (APACHE II) score, were older, had a higher proportion of intubation by pulmonary cause, had a higher percentage of failed UE (reintubation within 48 hours), had a shorter time between intubation and UE, required less sedative use, and so on. After multivariate analyses, significant predictors for mortality after UE were APACHE II score (odds ratio [OR] 1.052, 95% confidence interval [CI] 1.009~1.096, P=0.016), condition under ventilator weaning (OR 0.444, 95% CI 0.217~0.906, P=0.026) and failed UE (OR 2.579, 95% CI 1.193~5.575, P=0.016).

CONCLUSIONS: This study suggests that medical UE patients, have differences in characteristics from surgical patients. However, these characteristics did not contribute to mortality on multivariate analysis. To provide safe patient care, physicians should consider some mortality predictors after UE, such as high APACHE II score, not being weaned from the ventilator and failed UE. Some improvement protocols and regular surveillance should be performed for quality control.

Keywords: endotracheal intubation, unplanned extubation, re-intubation, mechanical ventilation