Benchmarking Intensive Care Physiotherapy Staffing in Australian Tertiary Hospitals

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BENCHMARKING INTENSIVE CARE PHYSIOTHERAPY STAFFING IN AUSTRALIAN TERTIARY HOSPITALS
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Introduction: Physiotherapy is an important component in the management of patients in the intensive Care Unit (ICU), bearing in mind that ICU physiotherapy is subject to the same safety and efficacies as the ICU. With no specific recommendations for ICU physiotherapy staffing, we examined current staffing levels in ICU staff levels and current staffing levels for ICU physiotherapy levels in Australia.

Methods: A questionnaire was modeled on the International ICU Staffing Standards on current ICU physiotherapy staffing guidelines. The questionnaire was completed by all public hospitals in Australia and the results were compared to current ICU physiotherapy staffing levels.

Results: The current staffing levels were significantly different between different geographic locations. The current staffing levels were significantly different between different hospitals.

ASSESSMENT OF PLASMA AND TISSUE LACTATE BY MEANS OF SUBCUTANEOUS MICRODIALYSIS DURING SEPTIC SHOCK: CASES WITH BACTEREMIA (BA) VS. NONBACTEREMIA (NON-BA).

Moriyama, S. Fujitani, H. Takahashi, M. Yanai, Y. Taira
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Introduction: Plasma lactate has been used as a better marker of tissue hypoperfusion in patients with sepsis. We hypothesized that there is no difference between plasma and tissue lactate in septic shock. We investigated plasma and tissue lactate levels in septic shock patients and analyzed for an assessment of differences in the overall group.

Methods: Patients were enrolled in two groups: the first group included patients with sepsis and the second group included patients without sepsis. Plasma and tissue lactate levels were measured in all patients.

Results: Plasma lactate levels were significantly different between the two groups. Tissue lactate levels were not significantly different between the two groups.

COMPARATIVE ANALYSIS ON THE TIMING OF TRACHEOSTOMY DURING MECHANICAL VENTILATION
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Despite widespread use of tracheostomy in ICU, it is still a controversial issue to define the best timing of change from endotracheal intubation to tracheostomy under the prolonged mechanical ventilation. This study was designed to compare clinical parameters between early tracheostomy (ET) and late tracheostomy (LT).

A retrospective study was done in 25 medical and 15 surgical ICU patients with observations during 38 days from tracheostomy in terms of ET group (n=25) vs LT group (n=25). The reference day between ET and LT was defined as the day of intubation.

The mean age was 64±19 years in ET and 65±17 years in LT. APACHE II scores in each time of observation and tracheostomy were slightly higher in LT but not significantly different by day. Day 0 to day APACHE II scores in ET were not different between the two groups during an observation period until 7th day from tracheostomy. Occurrence of nosocomial infections was not different between the two groups during observation period from 28 days from tracheostomy.

No significant difference was observed in the two groups during observation period from 28 days from tracheostomy. The mortality was increased as the APACHE II score up to 7 days from tracheostomy was increased. However, there were no increase in mortality in terms of time of tracheostomy and day of ventilator use before tracheostomy.

There was no clinical benefit of ET vs. LT in terms of changes of sepsis index, nosocomial infection duration, use of ventilator support, and mortality. It suggests that the proper time of tracheostomy is better to be decided on the clinical judgement.

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ASSESSMENT OF PLASMA AND TISSUE LACTATE BY MEANS OF SUBCUTANEOUS MICRODIALYSIS DURING SEPTIC SHOCK: CASES WITH BACTEREMIA (BA) VS. NONBACTEREMIA (NON-BA).

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Introduction: Plasma lactate has been used as a better marker of tissue hypoperfusion in cases with sepsis. However, we hypothesized that there is no difference between plasma and tissue lactate in septic shock. We investigated plasma and tissue lactate in septic shock patients for an assessment of differences and correlation in both BA and non-BA groups.

Methods: Patients with septic shock were enrolled between April 2006 and March 2007 in a mixed ICU at a tertiary care hospital in Japan. Microdialysis (DAW/Microdialysis) was used for measuring tissue lactate. Plasma and tissue lactate of cases with BA and non-BA were measured 3 times with 8 hour interval after ICU admission. Then two groups were compared and evaluated whether plasma lactate was correlated with tissue lactate. All data were reported as medians and interquartile ranges (IQR). Mann-Whitney U test and Spearman's correlation were used for statistical analysis and P<0.05 was considered statistically significant.

Results: Fourteen cases were enrolled and no difference of APACHE-II score was observed in BA and non-BA. Tissue lactate level (mmol/L) in BA (median 3.6, IQR 1.8-5.4) was significantly higher than in NON-BA (median 1.9, IQR 1.6-2.8; P<0.012). Tissue lactate was correlated with plasma lactate both in BA and non-BA (P<0.001 and P=0.012, respectively).

Conclusion: Our data suggested that tissue lactate level was more prominent in septic patients than those with non-BA. Tissue lactate measured by microdialysis and plasma lactate were correlated in both BA and non-BA groups.