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VENTRICULAR ARRHYTHMIA DURING WEANING FROM MECHANICAL VENTILATION

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INTRODUCTION. Weaning from mechanical ventilation (MV) can be associated with cardiac arrhythmias. Few studies are found comparing their occurrence during weaning with pressure support ventilation (PSV) and T-tube (TT) in patients with and without heart disease. The objective this study is evaluate the occurrence of arrhythmias in these groups of patients during PSV and TT.

METHODS. Patients without (group 1) and with (group 2) heart disease, under mechanical ventilation for at least 48 hours, were observed during 30 minutes of PSV or TT, in a random order. Variables analyzed were: age, APACHE, length of stay in ICU (LOS), cardiorespiratory variables including respiratory rate, rapid shallow breathing index (*f*/VT), maximum inspiratory (PI_{max}) and expiratory (PE_{max}) pressure. Continuous ECG was recorded by Holter method. For statistical analyzes repeated measures ANOVA or ANOVA on ranks were used.

RESULTS. Twenty-two patients were studied, 13 in group 1 and 9 in group 2. Comparisons between groups 1 and 2 showed: no differences were found in APACHE (23 ± 4 ; 23 ± 8 , NS), PI_{max} (32 ± 19 ; 28 ± 12 cmH₂O, NS) and PE_{max} (24 ± 10 ; 20 ± 7 cmH₂O, NS); *f*/VT was greater in cardiac patients during TT (PSV: 48 ± 25 versus 41 ± 18 ; TT: 42 ± 18 versus 57 ± 20 , ANOVA: $p < 0.05$), as well as respiratory rate (PSV: 21 ± 6 versus 20 ± 5 ; TT: 22 ± 6 versus 25 ± 6 , ANOVA: $p < 0.05$). The occurrence of ventricular arrhythmias (median and interquartile ranges), respectively in PSV and TT were in group 1: 1 (0–13) versus 1 (0–5.5) and in group 2: 3 (0.5–87) versus 21 (4–61), ANOVA: $p < 0.05$.

CONCLUSION. During weaning from MV cardiac patients showed higher respiratory rate and higher *f*/VT during TT when compared with PSV, as well as a greater occurrence of ventricular arrhythmias in both methods, but principally during TT, when compared with non-cardiac patients.