

DECREASE OF DECUBITUS COMPLICATIONS BY VACUUM MATTRESS IN TIME-CONSUMING SURGICAL OPERATIONS

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Background:

Vacuum mattress (VM) for surgical patient positioning is very little known although it has been available in market for several years. In laparoscopic surgery, extreme positions of the patient on the surgical table are necessary to facilitate the surgical approach. In our experience the use of the vacuum mattress has been very useful to place it in these positions.

We have also used this mattress for time-consuming interventions such as modified radical neck dissection (MRND), with the intention of avoiding complications of patients due to prolonged decubitus.

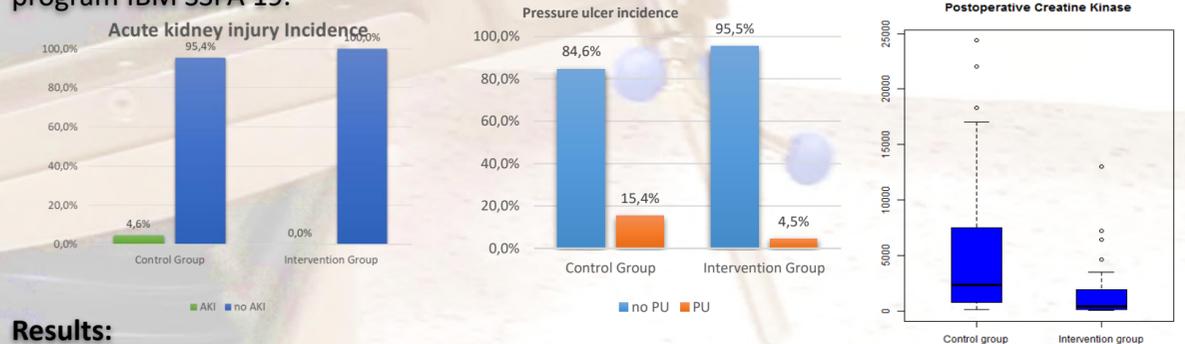
Objectives:

This study aims to analyze the incidence of acute kidney injury (AKI) and pressure ulcers (PU) that develop after modified radical neck dissection (MRND) performed due to thyroid cancer, and the usefulness of a vacuum mattress on the operation table in the decrease of these rates.



Methods

Observational retrospective cohort study on the appearance of AKI or PU, among patients undergoing MRND, with or without associated thyroidectomy during the period 2010-2018. Patients with previous kidney disease were excluded. Pressure ulcers rate, Creatine kinase (CK) and AKI values in the postoperative period, in these patients have been compared. The appearance of PU has been determined through observations recorded by surgeons, anesthetists and nurses in evolution and hospital discharge reports. AKI is defined as a postoperatively glomerular filtration (GF) value under 60ml/min/1.73m². GF has been calculated by MDRD-4 criterion. A bivariate analysis was performed, calculating the Pearson chi-square statistic for qualitative variables, and t of Student or Mann-Whitney for numerical ones, according to whether the hypothesis of normality was fulfilled or not. The level of significance considered was 0.05. The data was analyzed with the statistical program IBM SSPA 19.



Results:

109 patients, submitted to MRND were included. 41 men (37.6%) and 68 women (62.4%); with an average age of 49.73+/-16.42 years. In 44 patients the vacuum mattress was used (Intervention group IG), while 65 were operated without this device (Control group CG). Postoperative CK values were higher in the CG with median values of 2470 mcg/L vs 434 mcg/L in the IG. The level of significance was <0.001. The percentage of PU was also lower in the IG (4.5% vs 15.4%), although without reaching statistical significance. In the CG postoperative AKI incidence was 3 cases of 65 patients (4,6%) while there were no AKI in the IG in the 44 patient operated with vacuum mattress. Nevertheless there was no statistical significance for this result.

Conclusion: The use of vacuum mattress for positioning surgical patient supposes an increase in safety regarding the decrease of pressure ulcer and a lower incidence of acute kidney injury due to rhabdomyolysis.

Key words: surgical position, vacuum mattress, patient safety

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