

The assessment of the Intra-Abdominal Pressure after the elective and “on pump” cardiac surgery: an observational study.

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INTRODUCTON: Interest in and clinical investigation into intra-abdominal hypertension (IAH) and abdominal compartment syndrome (ACS) as causes of significant morbidity and mortality among the critically ill have increased exponentially over the past decade (1,2). **OBJECTIVE:** To evaluate the influence of postoperative Intra-Abdominal Pressure on: 1. Mean perfusion and hemodynamic parameters; 2. Admission SOFA score; 3. ICU Length of Stay (LOS) and weaning duration. **METHODS:** *Design:* analysis of a prospective collected database. *Setting:* An Intensive Care Unit (ICU) in a University Hospital. *Patients:* A total of 80 patients aged 30 – 80 (38 M and 42 F) with an ASA score II-III submitted to elective and “on pump” cardiac surgery from November 2011 to November 2012. At the end of the observation patients (*n*) were divided in five groups based on the Intra-Abdominal Pressure trend recorded during ICU stay (mmHg): Group 1 (12) <10; Group 2 (19) <12; Group 3 (28) <15; Group 4 (15) <20; Group 5 (6) >20. *Data collection:* Preoperative and intraoperative main data. Heart Rate-HR, Central Venous Pressure-CVP, Mean Arterial Pressure-MAP, Urinary Output-UO, lactate blood levels and ScVO₂ (Roche OMNI S Blood Gas Analyzer®, Roche Diagnostics GmbH, Mannheim, Germany) and Intra-Abdominal pressure with the UnoMeter™ Abdo-Pressure™ method (ConvaTec, Inc. 200 Headquarters Park Drive Skillman, NJ 08558) were recorded at ICU admission (T0) and after 6 hours (T1), 12 hours (T2), 24 hours (T3), 48 hours (T4). Admission SOFA score, weaning duration and ICU LOS were also recorded. *Statistics:* χ square test, Mann-Whitney test, unpaired t-Test and Fisher exact Test were used when appropriate. A *p* value of < .05 was considered statistically significant. **RESULTS:** No differences in pre- and intraoperative main variables (*p*=NS for all measurements). Patients of Groups 4 and 5 showed a significantly worse clinical trend in comparison with the other Groups: HR (T1,T2,T3) and CVP (T2,T3) were higher (*p*=0.035 and *p*=0.025 respectively) while MAP (T1, T2,T3) was lower (*p*=0.039); Lactate blood levels (T1,T2,T3) were higher (*p*=0.042) while ScVO₂ (T2) was lower (*p*=0.04) and UO (T2,T3) was decreased (*p*=0.038). Moreover Admission SOFA score was higher (*p*=0.029) while weaning and ICU LOS were longer (*p*=0.03 and *p*=0.021 respectively). **CONCLUSIONS:** In our opinion assessment of IAP could be a valid and integrative clinical tool in this setting.

REFERENCE(S):

1. Malbrain M.L.N.G. et al. Intensive Care Medicine 2006; 2. Hedenstierna G. and Larsson A. Current Opinion in Critical Care 20