

MEETING ABSTRACT

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# Use of clonidine following the weaning phase of the elderly patients underwent elective on-pump cardiac surgery: a prospective randomized study

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## Background

Alpha-2 adrenergic agonists reduce mortality and myocardial infarction following vascular and cardiac surgery [1]. Few data exist about the weaning phase in this setting.

## Materials and methods

*Design:* Analysis of a prospective and randomized collected database.

*Setting:* Intensive Care Unit (ICU) in an University Hospital.

*Patients:* A total of 45 patients aged >65 (26 M, 19 F; ASA II-III) submitted to elective on-pump cardiac surgery from November 2007 to June 2008.

*Randomization:* On ICU admission the patient was assigned to group 1 (Clonidine, intervention group) or group 2 (Placebo, control group).

*Interventions:* Group 1 received intravenous (IV) bolus of Clonidine 0.5 microg/kg followed by continuous infusion of 1 – 2 microg/kg/hr all over the weaning protocol phase. Group 2 received IV continuous infusion of Sodium Chloride 0.9% all over the weaning phase.

*Data collection:* We evaluated hemodynamic parameters, Troponin I (TnI) blood levels, weaning parameters, Delirium Detection Score (DDS), weaning duration and ICU length of stay. The patients were evaluated preoperatively (T0), on ICU admission (T1), after 6 hours (T2) and 30 minutes after the start of weaning protocol (T3).

## Results

No differences in preoperative and operative variables ( $p=NS$  for all measurements). The incidence of postoperative atrial fibrillation was lower in group 1 ( $p<0.001$ ).

Following the weaning phase, Heart Rate, Mean Pulmonary Arterial Pressure and Pulmonary Arterial Occlusion Pressure were lower in group 1 (respectively  $p<0.001$ ,  $p=0.019$  and  $p=0.037$ ). The TnI levels was lower in group 1 ( $p=0.05$ ). The ratio of respiratory rate and tidal volume (RR/TV) and the product of RR and pressure support (RR x PS) were lower in group 1 (both  $p<0.001$ ); the ratio of PaO<sub>2</sub> and FIO<sub>2</sub> (PA/FI) and PaCO<sub>2</sub> were higher in group 1 (respectively  $p=0.0035$  and  $p<0.001$ ). DDS was lower in group 1 ( $p=0.0028$ ). Weaning duration and ICU length of stay were similar in the two groups ( $p=NS$ ).

## Conclusions

The use of Clonidine in this setting reduce the stress-response during the weaning phase, improving hemodynamic stability and myocardial protection.

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## Reference

1. Wijeyesundera DN, Naik JS, Beattie WS: Alpha-2 adrenergic agonists to prevent perioperative cardiovascular complications: a meta-analysis. *Am J Med* 2003, **114**(9):742-52.

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