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INCIDENCE OF PREOPERATIVE HYPERTENSION IN CARDIAC AND NON CARDIAC SURGICAL PATIENTS

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Introduction: Prior studies have shown that preoperative arterial pulse pressure hypertension was associated with increased morbidity, particularly postoperative renal dysfunction in CABG surgery patients. The principal aim of this study was to identify the incidence of preoperative hypertension, in particular pulse pressure hypertension in patients undergoing non-cardiac surgery. The secondary aim was to compare the incidence of pulse pressure hypertension in cardiac surgical patients in our Hospital Center with previous reports.

Methods: 25,389 patients who underwent non-cardiac surgery and 1592 patients who underwent cardiac surgery between 1999 and 2003 were studied following our institution's review board guidelines. Incomplete data were excluded from the database. The incidence of preoperative systolic, diastolic and pulse pressure hypertension was identified following standard definitions: isolated systolic hypertension (ISH) = SBP>160 and DBP <90, isolated diastolic hypertension (IDH) = SBP <160 and DBP >90, combined systolic and diastolic hypertension (CSDH) = SBP>160 and DBP >90, pulse pressure hypertension (PPH) = pulse pressure >80. Chi-Square statistic was applied to test significance.

Results: 222 patients were excluded from the database for incomplete data. Of the 1581 cardiac surgery patients 63 (4%) had ISH, 61 (3.9%) had IDH, 42 (2.7%) had CSDH and 142 (9%) had PPH. Of the 25,178 patients who underwent non-cardiac surgery 676 (2.7%) had ISH, 1422 (5.6%) had IDH, 720 (2.9%) had CSDH and 1225 (5%) had PPH.

Conclusions: Our study confirmed the previously reported the incidence of preoperative hypertension in cardiac surgery patients (see Table). The incidence of preoperative PPH was found to be lower in patients undergoing non-cardiac surgery (5% vs. 9%, p <0.0001). Since arterial pulse pressure hypertension was previously shown to be an independent predictor of postoperative renal dysfunction in patients after cardiac surgery, further investigation needs to be undertaken to evaluate its effects after non-cardiac surgery.

Reference: 1. Aronson S et al: Pulse pressure confers a significant blow to the kidneys. *Anesthesiology* 2002;96:A182

