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Abstracttitel: Left Ventricular End Diastolic Volume (LVEDV) as a Perioperative Cardiac Risk Factor

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**Background:** Chronic reduction in LVEDV may reflect diastolic dysfunction (DD). Patients undergoing abdominal aortic surgery (AASx) represent a high risk group with major fluid shifts. The objective of this study is to evaluate if a reduced LVEDV, as a surrogate measure of DD, is a preoperative risk factor predictive of postoperative heart failure (HF) or death in patients undergoing elective open AASx.

**Methods:** Ethics approval was obtained and chart review of elective AASx from January 2005 to July 2007 was conducted. Perioperative data were collected and LVEDV measures were obtained from the Persantine studies. Low LVEDV was identified by  $\geq 40\%$  reduction of the LVEDV. Parametric data and non-parametric data were analyzed,  $p < 0.05$  being significant. Regression analysis on normal and low LVEDV was conducted.

**Results:** Out of the 230 patients, 175 had Persantine studies with 87 patients (49.72%) having a normal LVEDV; 69 patients (39.43%) had a low LVEDV and 19 patients (10.85%) a large LVEDV. The average age with normal and low LVEDV was  $71.7 \pm 8.1$ . Eight patients had  $EF < 50\%$ , all in the normal LVEDV group, one of whom experienced postop HF. In multiple regression analysis with age as a covariate, the odds ratio for HF or death in patients with low LVEDV was 4.75 [95% CI 2.73 – 8.17] and with age  $\geq 70$  being 2.35 [95% CI 1.34 – 4.1] respectively. RCRI score with and without HF/death were not different.

**Conclusion:** After preoperative stratification, reduced LVEDV is a predictor of postoperative HF and mortality in patients undergoing elective abdominal aortic surgery.