

### **Effect of Congestive Heart Failure on Postoperative Outcomes in Adult Patients Undergoing Laminectomy Surgery**

**Introduction:** There is limited literature regarding impact of CHF on postoperative outcomes of adult patients undergoing laminectomy. The objective of this study was to characterize incidence rates and postoperative outcomes between adult congestive heart failure (CHF) patients non-CHF patients undergoing laminectomy.

**Methods:** A retrospective case-control study was conducted involving patients from the National Inpatient Sample who underwent laminectomy surgery from 2005 to 2012. 1:1 propensity score match controlling for age, sex, race, and obesity status was performed to establish CHF and non-CHF cohorts. Univariate analysis was used to compare differences in postoperative complications and in-hospital mortality in the CHF cohort. Multivariate logistic regression analysis controlling for age, sex and obesity status was performed to determine CHF status as an independent risk factor for postoperative outcomes between the two cohorts.

**Results:** A cohort of 5759 CHF patients and 5759 non-CHF patients were identified. Both cohorts had similar sex, age, and obesity distributions. CHF patients who underwent a laminectomy procedure experienced higher rates of surgical and medical complications. CHF patients also were at increased risk for postoperative surgical complications (OR=2.3,  $p < 0.001$ ), medical complications (OR=4.4,  $p < 0.001$ ), and in-hospital mortality (OR=7.2,  $p < 0.001$ ). (Table 1).

**Conclusion:** Adult CHF patients who underwent laminectomy experienced higher rates of postoperative surgical, medical complications and in-hospital mortality. These findings help to anticipate potential complications in the postoperative period and suggest surgeons should take careful precautions when operating on CHF patients in order to optimize them prior to laminectomy surgery.