Background: After cardiac surgery, sternal wound infection (SWI) is associated with increased morbidity and mortality. We examined the relationship between implanted cardiac rhythm devices (ICRDs) and SWI after coronary artery bypass grafting (CABG).

Methods: Using our institutional database, we retrospectively collected data regarding patients who underwent CABG from January 1998 through December 2007. We used univariate analysis to test the association between SWI and patient demographic characteristics, medical history, medications, clinical presentation, history of permanent pacemaker implantation (PPM), and other perioperative variables. Univariate predictors were subjected to multivariate logistic regression analysis to determine their independence, and a propensity score analysis was used to eliminate potential confounding variables.

Results: We analyzed data from 10,589 patients (age 64±10.7 years; 26% female). Of this cohort, 208 patients had PPM (age 72±8.9 years; 32% female). SWI occurred in 102 (0.96%) of all patients: 2.4% with PPM and 0.93% without PPM. Multivariate analysis with propensity scoring identified three variables that were independently associated with an increased risk of SWI: PPM (odds ratio [OR], 2.9; 95% confidence interval [CI], 1.1-7.2; P=0.02), history of cerebrovascular disease (OR, 2.2; 95% CI, 1.2-3.9; P=0.008), and female gender (OR, 1.9; 95% CI, 1.3-2.9; P=0.002).

Conclusions: Previously implanted cardiac rhythm devices such as PPMs are independently associated with an increased risk of SWI after CABG. To our knowledge, this association has not been reported before. Our observation may be a function of unrecognized covariates. Further studies are warranted to examine the independent effect of ICRDs on the risk of SWI after cardiac surgery and to develop preventive strategies for decreasing this risk.