**Structured Abstract**: (212 words)

Objectives: To estimate the probability of increased total mortality risk in patients receiving a cardiac pacemaker following transcatheter aortic valve replacement (TAVR).

Background: A recent publication of a nationwide Swedish, population-based cohort study found no statistically significant difference for all-cause mortality. There are several reasons to query the robustness of this analysis and to investigate if a Bayesian reanalysis would lead to the same conclusion.

Methods: A digitalized approach to the published Kaplan – Meier curves to permit the reconstruction of the individual patient dataset. Bayesian survival analyses of this data using both vague, thereby allowing the posterior probability to be completely dominated by the observed data, and informative priors, based on the mortality risk of pacemaker implantation following surgical aortic valve replacement, were performed.

Results: Individual patient data was reliably extracted and showed an increased risk at 4 year follow-up (Hazard ratio (HR) = 1.08, 95% CI 0.85 - 1.36). The Bayesian analysis using a vague prior revealed a 75% probability of increased mortality in the pacemaker group. Using an informative prior, the posterior probability of increased mortality following pacemaker insertion was increased to 94%.

Conclusions: In contrast to the original publication, this Bayesian reanalysis suggests a moderate to high probability of an increased total mortality in TAVR patients following pacemaker implantation.

**Key Words**: Pacemaker, mortality, Bayesian