Do transvalvular pacemaker leads influence functional outcome after tricuspid ring annuloplasty?

The impact of permanent pacemaker (PPM) leads on functional outcome of tricuspid valve (TV) repair has not been clearly demonstrated. Therefore, controversy exists as to whether transvalvular PPM leads should be explanted and replaced by epicardial leads at the time of valve repair. This study evaluates the influence of PPM leads on functional outcome, TV-related reoperations and survival in patients undergoing TV repair for functional tricuspid regurgitation (TR). We retrospectively reviewed 415 consecutive patients who underwent TV ring annuloplasty at our institution from July 2007 to February 2013. In 112 patients (27%), a PPM was implanted either pre- or postoperatively. The follow-up is 94% complete (mean: 24.4 months; cumulative total 845 patient-years). The mean age was 70.2 ± 9.8 years and the mean logistic European System for Cardiac Operative Risk Evaluation (EuroSCORE) was 12.4%. Of note, 76.6% of the patients were in New York Heart Association class III or IV. Echocardiography documented moderate severe TR in 96.4% of the patients, with a mean annulus diameter of 44.8 ± 5.4 mm. 95.4% of the patients underwent a combined procedure and 16.4% an urgent or emergent operation. The 30-day mortality was 7.5%. The preoperative TR grade was reduced from 2.47 ± 0.52 to 0.70 ± 0.54 (P=II TR was
present in 7.1% of the patients. Freedom from recurrent \( \geq III \) TR at 5 years was 86.7 ± 3.2%. Upon uni- and multivariate analyses, the presence of a transvalvular PPM was not a risk factor for recurrent \( \geq III \) TR and late mortality. Freedom from TV-reoperations was 98.1 ± 0.8% at 5 years without significant difference between groups. The presence of a transvalvular PPM lead is not a risk factor for recurrent TR, TV-related reoperations and late mortality in patients undergoing ring annuloplasty for functional TR.