

Tricuspid Regurgitation after Right Ventricular Lead Extraction; Incidence and Clinical Implications

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Background: We sought to investigate the incidence, predictors, mechanism and clinical outcome of tricuspid regurgitation (TR) following extraction of RV leads.

Methods: We reviewed our database consisting of 81/ 180 pts who underwent an extraction of a device that had echo before and after the procedure. Increase in one grade of TR after extraction was considered significant. If grade 4 TR developed a TEE was preformed to identify TR mechanism. We evaluated the following parameters as predictors of TR development: indications, time from implantation, number of leads, tools used and type of lead.

Results: We extracted 203 leads. Indications included: pocket infection (54%), systemic infection (21%), endocarditis (22%) and lead malfunction (3%). Success rates were 98% (79/81). Overall 9/81 (11%) pts increased TR after the procedure. Four of them developed TR grade 4. TEE demonstrated flail leaflet in 2, chordal rupture in 1 and papillary muscle rupture in 1. During a follow up of 1.8 ± 1.6 y, none of them developed symptoms of Rt.sided heart failure or needed tricuspid valve (TV) surgery. All pts with TR had more than 1 lead and all underwent extractions tools other than locking stylet . Other parameters were not predictive of TR (table 1).

Conclusions: Significant TR is a complication of right ventricular lead extraction and is associated with mechanical rupture of TV components. Even then, intermediate follow up is favorable with no clinical consequences. Simple extractions (simple traction or use of locking stylet) or only one lead extraction were predictors for not developing TR.