

## A case of a leadless pacemaker implantation in patients early after tricuspid valve surgery

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**Background:** Right ventricle (RV) lead is placed in recipients of a transvenous pacemaker, and RV lead has been suggested as one of the cause of tricuspid regurgitation (TR). Lead-induced TR has been reported to occur in nearly 35% of patients with a RV lead upon long term follow-up, and significant TR is associated with poor prognosis regardless of the underlying cardiac pathology. However, patients with significant lead-induced TR may still need a pacemaker, and therapeutic options in these patients remain limited. Here, we report a case of a patient with significant lead-induced TR managed with a leadless pacemaker.

**Case:** A 54-year-old woman was hospitalized with dyspnea on exertion and generalized edema. She was implanted with a transvenous pacemaker for atrial fibrillation (AF) with slow ventricular response 5 years ago. Echocardiogram revealed severe TR and impingement of the RV lead on tricuspid valve (TV) leaflets. She received TV repair with tricuspid annuloplasty, and the pacemaker and the transvenous leads were removed. Although the TV was surgically repaired successfully, she still suffered from dyspnea and chest discomfort due to bradycardia-related symptoms. We decided to implant a leadless pacemaker because she previously experienced significant lead-induced TR. No procedure or device-related complications occurred during and after implantation. Follow-up echocardiogram showed a mild TR without a worsening of TR after the leadless pacemaker implantation. No paravalvular leakage was seen, confirming that no damage to the sutured ring or valve was induced during leadless pacemaker implantation. After successful implantation of a leadless pacemaker, she remained free from bradycardia-related symptoms as well as further development of TR.

**Conclusion:** Leadless pacemaker may be a good therapeutic option in patients with previous transvenous lead-induced TR. In addition, implantation of a leadless pacemaker after TV surgery is a feasible option.

