Abstract: P917

Transcatheter treatment of severe tricuspid regurgitation: first experiences with the edge-to-edge technique using the MitraClip

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Topic(s):
Valvular Heart Disease – Treatment

Citation:

Background: Due to increased operative mortality in high-risk patients treated for severe tricuspid regurgitation (TR), there is a growing interest in interventional therapy in these patients that are otherwise solely treated with medication. The edge-to-edge technique with implantation of one or more MitraClips is an therapeutic interventional option for these patients. So far, data for transcatheter TR treatment are sparse.

Purpose: The present cohort study investigates safety, feasibility and effectiveness of the edge-to-edge technique treating severe TR after starting a transcatheter TR treatment program at our institution in 2017.

Methods: A total of 17 high-risk patients (79.18±8.76 years, EUROScore II 9.31±8.23%, table) with symptomatic, severe TR were treated using the MitraClip system from 12/2017 until 12/2018. All patients received pre-interventional clinical, echocardiographic and invasive evaluation and were entered into a database. Safety and feasibility of the procedure, reduction of TR grade and clinical outcomes were collected and analyzed at the day of discharge and at 30-day follow-up.

Results: MitraClip device was successfully implanted in 16 of 17 patients (94.1%). In one patient grasping of the leaflets was impossible due to bad echo conditions by abdominal air. 76.5% of the patients had severe or massive and 23.5% had a torrential TR (figure). A total of 25 Clips were used (22 in anteroseptal, 3 in posteroseptal commissure). No intra-procedural deaths, emergency surgery or major vascular complications occurred. Postprocedural TR was significantly reduced (TR reduction = 1 grade) from a mean TR grade of 3.8±0.8 at baseline to 1.74±0.59 postprocedural (p<0.001, table and figure). One patient had device detachment before discharge. There was one death due to progressive cardiogenic shock 4 days after the procedure. However, the procedure was planned as a last therapeutic option in this terminally ill patient. Echocardiography at discharge showed reduction of TR in 82.4% of patients (mean TR grade at discharge 2.21±0.66, p<0.001). At 30 day f/u symptoms were significantly improved from initial mean NYHA class of 3.06±0.56 to a mean NYHA class of 2.55±0.52 (p = 0.002) and patients presented with reduced TR (mean TR grade at 30 day f/u 2.58±0.57, p<0.001).

Conclusion: Interventional treatment of severe TR in high-risk and mostly inoperable patients using the MitraClip technique is safe and effectively reduces TR grade leading to clinical improvement. However, further investigations are needed to identify clear parameters highly predictive for a favorable acute and midterm procedural success. Also, more data and clinical trials are needed to determine the long-term course in these patients.
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