[PP-086]

Use of Biodegredable Annuloplasty versus Devega Annuloplasty for functional Tricuspid insufficiency

İhsan Alur[1], Baran Budak[2], Mustafa Güneş[3], Kadir Gökhan Saçkan[1], Mustafa Sezen[4], Tuğrul Göncü[4], Fatih Özyazıcıoğlu[4]
[1]Denizli State Hospital, Department of Cardiovascular Surgery; Denizli-Turkey
[2]Atatürk Chest Disease and Chest Surgery Training and Research Hospital, Department of Cardiovascular Surgery, Ankara-Turkey
[3]Erzurum Region Training and Research Hospital, Department of Cardiovascular Surgery, Erzurum-Turkey
[4]Bursa Yuksek İhtisas Education and Research Hospital, Department of Cardiovascular Surgery, Bursa, Turkey

OBJECTIVE: The Kalangos Biodegradable Tricuspid Ring (KBR) is a novel prothesis for the treatment of functional tricuspid insufficiency (FTR). The study aim was to assess the clinic and echocardiographic results of KBR for FTR and compare this technique with the results of DeVega annuloplasty.
METHODS: Between January 2005 and October 2006, either KBR implantation or tricuspid DeVega annuloplasty was performed in a study group of 64 patients with the diagnosis of moderate or severe FTR. The patients were divided into 2 groups according to the surgical technique as group 1 (32 patients, KBR, 22 female/10 male, age 43,5±14 years) and group 2 (32 patients, DeVega annulolasty, 23 female/9 male, age 45,1±12 years). Patients were evaluated preoperatively, at the postoperative first week, third and sixth month by transthoracic echocardiography. Ejection fraction (EF), peak velocities of early (E) and late (A) diastolic filling, the E/A ratio, deceleration time, isovolumetric contraction time, isovolumetric relaxation time, pulmonary artery pressure (PAP) and ejection time were measured and Tei index was calculated. Two groups were compared with respect to both their clinical, surgical, preoperative and postoperative echocardiographic findings.
RESULTS: There were no statistically significant differences between the groups in terms of age, gender, mean arterial pressure, cardiac rhythm, heart rate, NYHA class, EF and PAP. Postoperatively PAP was decreased in both groups (in group 1 from 70±14 mmHg to 57±12 mmHg, in group 2 from 68±18 mmHg to 56±15 mmHg; $p<0.05$). Postoperatively, FTR severity and Tei index was decreased in both groups (in group 1 from 3,44°/4°-0,62±0,24 to 1,69°/4°-0,59±0,14; in group 2 from 3,53°/4°-0,61±0,19 to 1,71°/4°-0,59±0,28;$p<0.05$). In postoperative 3rd month, FTR was statistically more severe in group 2 (1.75°/4° in group 1 vs 1.87°/4° in group 2; $p<0.05$) and the Tei index of group 1 were significantly lower than group 2 (0.48±0.2 vs 0.54±0.22; $p<0.05$). In postoperative 6th month, FTR was statistically more severe in group 2 (1.84°/4° in group 1 vs 2.22°/4° in group 2; $p<0.05$) and the Tei index of group 1 was significantly lower than group 2 (0.47±0.29 vs 0.55±0.24; $p<0.05$).
CONCLUSIONS: Implanting KBR in patients with deteriorized right ventricle function because of long-lasting pulmonary hypertension preserves annular tricuspid functions and recurrence FTR rate is lower. KBR is a promising prothesis in patients with moderate and severe FTR, with encouraging midterm results.

Keywords: Tricuspid Insufficiency, annuloplasty, echocardiography