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Clinical and echocardiographic results of the Kalangos biodegradable tricuspid ring for moderate and severe functional tricuspid regurgitation treatment

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Abstract

Introduction: The Kalangos Biodegradable Tricuspid Ring (Kalangos Biodegradable Tricuspid Ring®, Bioring SA, Lonay, Switzerland) is a biodegradable prosthesis in the treatment of functional tricuspid regurgitation (FTR). In this study, we aimed to determine the clinical and echocardiographic results of this prosthesis for moderate and severe FTR treatment and compare this technique with the results of semicircular DeVega annuloplasty. **Materials and methods:** From January 2005 through January 2010 we retrospectively studied the data on 64 consecutive patients underwent annuloplasty procedures for FTR treatment. The patients were assigned to 2 groups: (1) Kalangos BTR annuloplasty was performed in 32 patients, and (2) Semicircular DeVega annuloplasty was performed in the 32 patients. All patients were evaluated clinically and by echocardiography preoperatively, at the end of the 1st week, 3rd and 6th month following surgery. **Results:** No complications related to the prosthesis or the procedures within the follow-up period were recorded. At the follow-up period, systolic pulmonary arterial pressure and tricuspid valve area diameter were found to be significantly lower than the preoperative values in both groups ($p < 0.0001$). At the follow-up period residual tricuspid regurgitation and the Tei index (Myocardial performance index) was significantly lower in group 1 compared to group 2 ($p < 0.05$). Three-quarters of the annuloplasty ring had degraded in the postoperative 6-months period. **Discussion:** We conclude that Kalangos BTR is an efficient and safe prosthesis with easy implantation technique for FTR treatment, with encouraging midterm results.

Keywords: Functional tricuspid regurgitation, tricuspid annuloplasty, echocardiography

Introduction

Various repair techniques have been advocated for the treatment of functional tricuspid regurgitation