

## Severe Rheumatic Tricuspid Valve Disease, To Repair or To Replace, Egyptian Experience

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### Objectives:

Rheumatic heart disease is frequently associated with severe tricuspid valve affection which contributes to worsening heart failure, and decision to repair or replace the tricuspid valve is debatable. Herein, we study the outcome of replacement versus repair in such patients.

### Methods:

A prospective study was conducted on 134 consecutive patients with rheumatic heart disease showing severe tricuspid valve affection who underwent tricuspid valve surgery, between 2015 and 2021. The patients were divided into two groups; TVR (Tricuspid valve replacement) group (n=65) and TVr (Tricuspid valve repair) group (n=69) which included patients who underwent tricuspid valve repair. The valve used for replacement was tissue valve, and for repair a ring was used. Diagnosis and follow up were done by clinical assessment and echocardiography. Preoperative characteristics, clinical outcome, morbidity, mortality, and follow up data were recorded.

### Results:

The mean follow-up period was  $5 \pm 1.62$  years. Most patients (n=70, 52.6%) were presenting in NYHA class III. Tricuspid regurgitation accounted for more than two thirds of cases (n=93, 69.6%). In-hospital mortality was 3 patients (5%) in TVR group and 2 patients (3%) in TVr group (P value = 0.06). Postoperative low

cardiac output syndrome was significantly higher in the repair group [37 (53.2%) vs 26 (41.2%), p value < 0.01]. Postoperative RV dysfunction was significantly higher in TVR group (25 patients, 38.7%) than in TVr group (14 patients, 20.5%), (P value = 0.001). renal impairment, renal failure requiring dialysis [ 3 patients (3.5%) vs 1 patients (1.3%) in TVR and TVr groups respectively] were also significantly higher in the replacement group.

Severe tricuspid regurgitation was reported in 10 patients (14.8%) in the repair group on 5-year follow up, while only 6 patients in the replacement group developed mild to moderate tricuspid regurgitation and no patient had severe regurgitation.

### Conclusion:

Tricuspid valve repair is preferable to replacement to avoid the deleterious effects of prosthesis. However, tricuspid valve replacement shows comparable early and midterm survival outcome. The value of replacement is evident if the rheumatic disease is progressive as indicated by heavy tricuspid valve leaflet involvement.

### Keywords:

rheumatic valve disease, primary tricuspid valve disease, tricuspid valve repair, tricuspid valve replacement, tricuspid regurgitation, heart failure.