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### **Comparison of Ring Types for Tricuspid Valve Annuloplasty**

*Silberman, S; Merin, O; Fink, D; Deeb, M; Tauber, R; Bitran, D  
Shaare Zedek Medical Center, Jerusalem, Israel*

**Introduction:** For many years, suture annuloplasty (De-Vega) was the accepted procedure for tricuspid valve annuloplasty, however results have been disappointing. We compared early results between various available rings for tricuspid annuloplasty.

**Methods:** One hundred and forty nine patients underwent tricuspid valve annuloplasty in adjunct to other procedures. In 73 a flexible (Duran or Cosgrove) ring was implanted, in 46 a rigid planar ring (Carpentier-Classic (CE)), and in 30 a rigid 3-dimensional (MC3) ring. The groups were similar in age, clinical profile, and surgical categories. Mean implanted ring size was  $28.5 \pm 1.5$ ,  $30 \pm 1$  and  $30 \pm 1$  for MC3, CE, and flexible rings respectively ( $p < 0.0001$ ).

**Results:** Post-operative echocardiogram was available in 135 patients (91%), at a mean interval of  $21 \pm 12$  days. For the MC3, CE and flexible groups respectively: LV dysfunction was observed in 2 (10%), 2 (5%), and 15 (24%) ( $p=0.05$ ); RV dysfunction in 1 (3%), 4 (10%) and 8 (12%) ( $p=ns$ ); MR grade 3-4 in 0, 2 (12%), and 4 (17%) ( $p=ns$ ). Residual (moderate or severe) TR was observed in 6 (21%), 3 (8%), and 27 (43%) ( $p=0.002$ ). Comparison between the two rigid groups showed no difference in outcomes. Comparison between the rigid groups and the flexible group showed a distinct advantage for the former: residual TR in 9 (13%) and 27 (43%) respectively ( $p=0.0001$ ).

**Conclusions:** Rigid tricuspid annuloplasty rings are superior to flexible rings. This is probably due to ring design, which in addition to annular size also dictates annular shape. In our experience we did not find any advantage of one rigid ring to another.