Reconstructing the Incompetent Degenerative Mitral Valve. Long-Term Clinical and Echo Fup

Cerin, Gheorghe[1]; Popa, Bogdan[1]; Lanzillo, Guido[2]; Benea, Diana[1]; Casati, Valter[3]; Stelian, Edmond[3]; Popa, Anamaria[1]; Novelli, Eugenio[4]; Diena, Marco[2]
[1]Clinica San Gaudenzio, Department of Cardiology, Italy; [2]Clinica San Gaudenzio, Department of Cardiac Surgery, Italy; [3]Clinica San Gaudenzio, Department of Anesthesiology, Italy; [4]Clinica San Gaudenzio, Department of Statistics, Italy

Background: Surgery remains largely underused in symptomatic pts with severe mitral regurgitation (MR) in spite of clear indications from the guidelines. Mitral valve repair (MVR) should be the preferred treatment of degenerative MR.

Echocardiography grew into an essential tool for the surgeon by revealing the relationship between MV geometry and function and allowing the refinement of the techniques.

Aim: To verify if the use of specific concepts of MV geometry, such as the triangle of coaptation (ToC) may impact on the long term clinical outcome and on achieving a complete and stable repair.

Method: From 2001 to 2010, 770 pts with degenerative MR underwent MVR. Echocardiograms were performed preoperatively (PreOP) and postoperatively (PostOP). Clinical and TTE Fup was done after a mean period of 3,2±1,6y in 230 consecutive pts (mean age 63± 5y, 65% men).

The normal geometry of MV was defined by the presence of ToC1, coaptation length (CL) and height (CH). Surgery aimed to correct the MR with a single orifice and to rebuild the ToC using GoreTex chordae and annuloplasty.

Results: Feasibility of MV repair was 98% (754 pts) with no deaths. After surgery the MR virtually disappeared: PreOp PISA 89,1±29,5 vs PostOp 4,2±11,1 vs Fup 13,1±13,5ml/sec.Three pts required re-intervention. PreOP the ToC was absent in 93% of pts and was accomplish in 95% PostOP and in 85% at Fup. The mean CL was 6.9mm and mean CH was 6,25±2,1mm. At Fup the ToC was present in 85% of pts, the mean CL was 6.2mm and the mean CH was 5,58±2,5mm.

Conclusion: MVR is feasible with very good results in 98% of pts using Goretx chordae and annuloplasty. The ToC is achievable in 95% of pts. It shows a significant geometrical distortion at 3,2 y fup with no correlation with the residual MR. The residual MR remained mild and stable at Fup.

Reference:
1 Tesler UF, Cerin G, Novelli E, Popa A, Diena M. Evolution of surgical techniques for mitral valve repair. Tex Heart Inst J, 36(5), pp. 438-40, 2009