We thank Dr. Tavlasoglu for his comments on our reported series of MitraClip implantation in patients with severe mitral regurgitation (MR) who were at high risk of conventional surgery. Mitral valve (MV) repair is the operation of choice for MR and results in excellent long-term durability and improved survival, but MitraClip, can currently provide an alternative for patients who are at too high risk for conventional surgical repair or replacement. Functional MR is common in systolic heart failure and mitral annular dilatation is often an important associated feature. Carpentier et al were the first to describe in 1971 the annuloplasty ring that symmetrically reduced the mitral annulus, which effectively tackled the problem of annular dilatation and geometric deformation of the mitral annulus accompanying MR. Alfieri et al introduced the edge-to-edge repair technique in 1991, the concept on which MitraClip is based.

The EVEREST trial, which compared MitraClip to conventional MV surgery, demonstrated superior efficacy in terms of freedom from death, reoperation and severe MR at 1 year, though both therapies demonstrated similar functional class improvement. MitraClip implantation is technically demanding, with a long learning curve, and therefore case selection is of paramount importance to identify the suitable valve morphology in order to achieve good MR reduction. During implantation, leaflets in functional MR typically rest on the clip arms, so the clip can be closed whenever the position is desirable. The leaflets must be not deep enough in to become detached. If the leaflets are in there are usually very tight, with a tendency to tear if there is high tension. In degenerative MR, the conditions are quite similar. Clip detachment is not common in the real-world setting; recent registry data show an incidence of partial clip detachment of 0.2%.

In conventional surgical MV repair, annuloplasty may be used as the sole therapy or in conjunction with other techniques such as primary MV leaflet repair, resection, or commissurotomy and shortening, transfer or replacement of the chordae tendineae. Various percutaneous approaches to MV repair have been designed to mimic some of these techniques, such as MitraLign (Mitrailign, Salem, NH, USA), the Carillon Mitral Contour system (Cardiac Dimensions Inc, Kirkland, WA, USA) and mitral cerclage annuloplasty. The aim of using these devices is to ameliorate the mitral annular dilatation that is more prevalent in functional MR. Siminiak et al demonstrated that the Carillon device is efficacious in reverse LV remodeling up to 24 months.

In some high-risk surgical candidates, more common among functional MR patients, implanting MitraClip can achieve a satisfactory reduction in MR most of the time. In those with marked annular dilatation, annuloplasty devices or mitral cerclage annuloplasty can potentially achieve better reduction in MR and reduction in LV volume, if used in combination with MitraClip. Whether this combination therapy provides better long-term outcomes for this subgroup of patients with high surgical risk is unknown without randomized data from which to make a more meaningful conclusion.

References


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