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Should MitraClip applications be compared with medical treatment or mitral valve repair surgery?

MitraClip uygulamaları mitral kapak cerrahisi ile mi yoksa tıbbi tedavi ile mi kıyaslanmalıdır?

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Dear Editor,

Aksu et al.[1] reported their experiences on MitraClip implantation performed in functional mitral valve regurgitation. The study conducted in Turkey is of utmost importance. We appreciate the authors who are closely involved in following the recent developments in percutaneous valve interventions. We think that this approach has a particular importance for further developments in our country in this field. With this regard, we would like to discuss the comparisons made between the results of intervention and valve repair surgery.

Initially, we should focus on the physiological movement of mitral valve annulus. During diastole, the shape of the mitral annulus is roughly circular. During systole, the annulus becomes kidney shaped with an anteroposterior (septolateral) diameter smaller than the transverse diameter. A 26±3% reduction of mitral orifice area during systole results from the displacement of the aortomitral curtain toward the center of the orifice.[2] Briefly, aortomitral curtain displaces constantly during systole and diastole in the direction of septolateral axis. The reason for long-term durability of the repair is to fix the aortomitral curtain in systolic position with the application of 'mitral ring annuloplasty'. Without ring annuloplasty, the tension over the direction of A2 and P2 scallops cannot be reduced. This may be the reason for 9% of "partial clip detachment" observed in EVEREST I study. Interestingly, 'partial clip detachment' was not reported in EVEREST II study.

To the best of our knowledge, although the 'downsizing ring annuloplasty' is necessary in functional mitral valve disease, it is not solely enough as this approach cannot correct the left ventricular dilatation in equatorial axis (LVEqD) completely. In line with this, it was reported by Ferrazzi P et al.[3] that preoperative LVEqD correlated best with outcome and among all of the LV diameters and volumes, LVEqD was the only independent factor of clinical outcome. Thus, neither MitraClip nor downsizing annuloplasty approaches is effective in decreasing 'LVEqD'. Another drawback is that MitraClip applications are not effective in fixing aortomitral curtain in systolic position. In this point of view, we believe that comparing MitraClip application with surgery may not be appropriate.

Another issue which we would like to discuss is that MitraClip implantation is based on the 'edge-to-edge' repair technique described by Ottavio Alfieri. However, even Dr. Alfieri never reported favorable results without ring annuloplasty[4] compared to the classical surgical knowledge, mainly described by Dr. Carpentier.

In conclusion, in the light of aforementioned data, MitraClip applications are not appropriate alternatives of the surgical treatment. Therefore, it does not seem to be comparable with surgery, except medical treatment options as described in the guidelines.

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