Commentary: Hypertrophic cardiomyopathy and the mitral valve—the debate continues

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In this edition of the Journal, Dearani and colleagues1 examine whether mitral valve (MV) leaflet length affects outcomes in patients with hypertrophic cardiomyopathy (HCM). In this retrospective study, MV leaflet lengths and coaptation length were measured by intraoperative transesophageal echocardiography (TEE) in 564 patients with HCM undergoing septal myectomy. The primary endpoint was relief of the left ventricular outflow tract (LVOT) gradient following myectomy, and secondary endpoints were reduction in the degree of mitral regurgitation (MR) and systolic anterior motion (SAM). Extended septal myectomy was performed in 74.5% of the patients, and MV procedures were performed only when intrinsic MV disease was present. None of the leaflet measurements were associated with postoperative resting LVOT gradient, magnitude of gradient relief, and preoperative or postoperative MR grade. However, there was a positive relationship between the 3 leaflet measurements and postoperative SAM, but the association between greater anterior leaflet (AL) length and postoperative SAM was not statistically significant.

This Mayo Clinic group has demonstrated excellent surgical results in this large group of HCM patients with a mortality rate of <1%, average postoperative LVOT gradient of ≤10 mmHg, and VSD rate of <1%. As the authors discuss, there are 2 opposing views on surgical management of HCM and the MV—isolated septal myectomy versus septal myectomy plus AL management of the MV. The authors provide compelling data indicating that myectomy alone is adequate for addressing SAM and MR associated with HCM, and that additional MV procedures are unnecessary unless intrinsic MV disease is present.1,2 In contrast, other HCM centers focus on the AL of the MV at the time of myectomy in selected HCM cases, such as those with a relatively thin septum. In 1992, McIntosh and colleagues3 published their technique of vertical plication of the anterior leaflet of the MV. Swistel and colleagues4-9 at New York University have described the “RPR” technique composed of resection, AL plication, and resection of abnormal papillary muscle attachments. Ferrazzi and colleagues10-12 in Monza, Italy have advocated division of the secondary chordae of the AL of the MV. Procedures to extend and stiffen the anterior leaflet have also been described.13,14 All of these groups have demonstrated success in reducing postoperative LVOT gradient, MR, and SAM.

Looking closer at the present data, the frequency of postoperative SAM and MR was not insignificant in these patients. Postoperative SAM occurred in 65.6% of patients in the elongated AL MV group versus 47.6% in the nonelongated AL MV group, a statistically significant difference. With this rate of SAM and a >10% rate of
moderate or greater MR in both groups of patients, one has to wonder whether the AL MV should be addressed. In addition, this retrospective study only looked at intraoperative TEE measurements and provided no long-term data on LVOT gradient, SAM, or MR.

Dearani and colleagues should be congratulated again on their extensive clinical experience with HCM surgery and these excellent results. We look forward to additional long-term data for the ongoing debate of myectomy versus myectomy plus AL MV surgery in HCM patients.

References