The Editor,

We read with interest the article by Aggarwal et al. [1] about the intraoperative echocardiography detection of abnormal mitral valve apparatus in a patient scheduled for surgery for hypertrophic obstructive cardiomyopathy in the latest issue of Annals. The authors need to be congratulated for detecting the various abnormalities of the mitral valve apparatus by intraoperative transesophageal echocardiography; however, we feel that the concomitant mitral valve replacement along with septal myectomy was probably unwarranted.

The abnormalities of mitral valve, as the authors rightly pointed out, are a phenotypical expression of the disease and are increasingly recognized as an important component of left ventricular outflow tract obstruction, especially when the thickness of interventricular septum is <18 mm. [2,3] The large majority of patients with obstructive hypertrophic cardiomyopathy (HCM) have elongated anterior and posterior mitral leaflets. In obstructive HCM, the anterior mitral leaflet length averages 34 mm versus 24 mm in a normal heart. These elongated leaflets protrude into the left ventricle well above the plane of mitral annulus (26 mm compared to 13 mm in normal hearts) when it is viewed from the apical views at systolic coaptation in transthoracic echocardiography[2] and is called the “nightcap” mitral valve. The residual portion of anterior leaflet beyond the point of coaptation is not constrained by the left ventricle–left atrium pressure difference; rather, it is only bounded by the left ventricle and thus freely moves with the left ventricular flow, even at low velocities. [2]

These abnormalities are easily detected in cardiac magnetic resonance imaging (MRI) preoperatively; incorporating cardiac MRF[4] in the diagnostic workup algorithm has become the standard of care in most HCM centers including ours, so that intraoperative diagnostic surprises are avoided and enables proper preoperative planning. Even then, transaortic extended septal myectomy is the first step of surgery. In most patients, mitral regurgitation related to systolic anterior motion is relieved through extended myectomy. The anterior mitral leaflet plication and release of papillary muscles[5] are added to myectomy by some surgeons (resection/pllication/release). We routinely perform horizontal plication of anterior mitral leaflet if it is above 32 mm in length. Concomitant mitral valve surgery is rarely necessary unless intrinsic mitral valve disease is present. When mitral valve procedures are required, repair is preferred because of improved survival compared with replacement. Every effort should be made by surgeons to conserve the mitral valve, as mitral valve replacement may lead to severe left ventricular dysfunction postoperatively and convert the surgical procedure from a potentially curative one to a palliative surgery. In this regard, we have even described a novel technique of plicating the posterior mitral valve leaflet in patients with residual gradient after resection and plication of anterior mitral leaflet.[6] Replacement of mitral valve is reserved only for calcified mitral valve leaflets in patients with residual obstruction after extended septal myectomy. The indices for residual systolic anterior motion described by Varghese et al. pertain to degenerative mitral valve repair and are not validated in HCM patients and should not be used as an indicator for mitral valve replacement in this subset of patients.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

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Submitted: 07-Aug-2018
Accepted: 06-Nov-2018
Published: 07-Apr-2020

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Access this article online

Quick Response Code: 
Website: www.annals.in 
DOI: 10.4103/aca.ACA_160_18

How to cite this article: Varma PK, Ahamed H. Abnormal mitral valve apparatus is not an indication for mitral valve replacement in hypertrophic obstructive cardiomyopathy. Ann Card Anaesth 2020;23:246-7.

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