

We think that our case is important because to our knowledge, this is the first report that demonstrates a congenital QAV associated with hypertrophic obstructive cardiomyopathy. Despite the low incidence, because QAV may also cause aortic stenosis, the reason of the transvalvular gradient must be established and a careful distinctive diagnosis in a patient with coincidental hypertrophic obstructive cardiomyopathy is required. In our patient, the aortic valve demonstrated three equally sized cusps with a one smaller extra cusp that causes mild regurgitation. The transthoracic echocardiography was helpful to diagnose QAV and transvalvular pressure gradient. Transesophageal echocardiography was used to evaluate further the aortic structure. Additionally, aortography and left ventriculography were performed to support the hypertrophic obstructive cardiomyopathy diagnosis.

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Evaluation of hemodynamic changes in patients with mitral valve replacement using dobutamine stress echocardiography

Mitral kapak replasmanı yapılan hastalarda dobutamin stres ekokardiyografi ile hemodinamik değişikliklerin değerlendirilmesi

Dear Prof. Dr. Bilgin Timuralp

Editor-in-Chief

The Anatolian Journal of Cardiology

The article by Tulga Ulus A. et al. (1) published in the recent issue of The Anatolian Journal of Cardiology investigated the hemodynamic response to Dobutamine stress (DSE) of bicarbon mechanical mitral valve of different size and evaluated the relationship between prosthetic size and cardiac recovery-remodeling process, 4.0±2.2 years after the operation.

The study demonstrated that, at follow-up, only the patients who had undergone mitral valve replacement (MVR) with small-sized valve prosthesis (≤29mm) achieved a decrease in cardiac mass index and a preserved left ventricular (LV) systolic function. On the contrary, the patients with large-sized mitral valve prosthesis achieved a decrease in

systolic pulmonary artery pressure (PAP) and a non significant decrease in cardiac mass index, but had worse LV systolic and diastolic function (with higher volumes and diameters).

During DSE, PAP and diastolic mitral valve gradients increased in all patients, especially in patients with valve prosthetic size ≤29mm. However, in patients with prosthetic size >29mm, LV systolic and diastolic parameters worsened (LV end-diastolic dimension and LV end-systolic dimension resulted to be higher and isovolumic relaxation time to be more prolonged as compared with patients with smaller size valve).

The authors conclude that "prosthetic mitral valve size has an effect on cardiac remodeling in the late postoperative period...further investigations should be carried out to put forward more definite results" (1).

The conclusion seems to be in contrast with the detailed discussion regarding the relationship between the prosthetic valve size and cardiac remodeling and in which the role of mitral valve pathology, the hemodynamic consequences and surgical technique are analysed.

The patients with mitral insufficiency or with a combined type of lesions (stenosis and insufficiency) are more prone to have larger ventricles, an altered ventricular geometry, with more spherical morphology, and anatomic and functional damage of myocardial fibers. In these patients a large-sized prosthetic valve are frequently implanted because of mitral annulus dilatation; the MVR with chordal transection, without posterior leaflet preservation, leads to more spherical ventricular geometry, reducing the possibility of favourable reverse remodeling. Therefore the patients implanted with >29mm mitral prosthesis showed a worse recovery of LV size and function and a less decrease of LV mass index as a result of baseline valve pathology, type of hemodynamic consequences (LV enlargement, mitral regurgitation) and surgical technique. During DSE ventricular systolic and diastolic parameters worsened to, as a consequence of impaired LV contractility response.

The patients implanted with ≤29mm mitral prosthesis (valve replacement with chordal transection, without posterior leaflet preservation), had more frequently lone mitral stenosis or combined mitral and aortic disease (consequently underwent double valve replacement), smaller ventricles and higher EF and FS. In these patients, after operation, ventricular size significantly and faster decreased, ventricular systolic function increased and hemodynamic response to DSE resulted normal as consequences of preserved contractility response.

Therefore this interesting study outlines the needs of accurately studying all patients with mitral valve disease before and after MVR, for the evaluation of surgical, anatomical and functional results, and the utility of performing physical or pharmacological stress for the evaluation of prosthetic valve hemodynamic performance.

Cardiac remodeling seems to be related with preoperative valvular pathology, hemodynamics and ventricular size and performance; therefore, the optimal timing for MVR is warranted.

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Author Reply

Dear Editor,

I would like to thank to the author of the letter for the kind contribution to our manuscript. The letter strengthens and supports our discussion about the prosthetic valve size and the hemodynamic evaluation following the valve replacement. We should follow-up all patients with valve disease before and after surgery, for the evaluation of surgical, anatomical and functional results, and valve hemodynamic performance. Cardiac remodeling is really seems to be related with preoperative valvular pathology. As it was mentioned in our paper; patients who have undergone valve replacement are not cured and still have serious heart disease. They have exchanged native valve disease for prosthetic valve disease and must be followed with

the same care as patients with native valve disease. The clinical course of patients with prosthetic heart valve is influenced by several factors including left ventricular dysfunction, pulmonary hypertension and clinical heart failure. In our country, valve pathology is almost always of rheumatic nature. We should remember that not only the valves but also the entire heart is effected and the continuing pathology effects the patients also following the surgery. Especially, when the valve insufficiency is dominated the pathology, the myocardium and heart chambers are more severely effected. Surgical indications and timings for the rheumatic valve surgery may be reconsidered in the near future.

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The Anatolian Journal of Cardiology olarak birlikte çalıştığımız "The International Society for Computerized Electrocardiology", "The International Society of Electrocardiology"nin hazırladığı, yukarıda kapağı görülen takvimde Türkiye'den Prof. Dr. Siber Göksel'in solda en alttaki resmi ve Dr. Gülseren Ünsün Engin'in ortadaki kadın portresi yer almıştır. Bu resimler dergimizin önceki sayılarında basılmıştı.