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Video 1, 2. Obstructive thrombosis impairing occluder movement shown by two dimensional transesophageal echocardiography (1) and real time transesophageal echocardiography (2)

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Starr-Edwards caged ball valve pursuing to astonish us-38 years in mitral position

Starr-Edwards kafesli top kapak bizi şaşırtmaya devam ediyor-mitral pozisyonda 38 yıl

Introduction

Until invention of a caged ball valve prosthesis, rheumatic cardiac valve failure had been a deadly disease with death rate of 12/100.000 in 1958. The first time successful Starr-Edwards caged ball valve implantation performed in 25 August 1960 is accepted as a milestone for cardiac valve surgery (1). Several centers published their experiences with this valve in both aortic and mitral positions. Encountered complications with caged ball valve such as; systemic embolisation, ball variance, high pressure gradient, growth of pannus and chronic hemolysis; lead to new valve designs (2-5). Nowadays these investigations still goes on for perfect valve.

Despite its' old fashion design in some cases impressive durability of Starr-Edwards caged ball valves astonishes investigators and this case is one of them.

Case Report

A 58-year-old male patient with lower extremity edema and dyspnea during minimal exercise admitted to the hospital. 38 years ago the patient had mitral valve replacement with Starr-Edwards Caged Ball prosthesis for severe mitral valve regurgitation. According to New York Heart Association classification, the patient was in class 3. Echocardiography documented severe tricuspid valve regurgitation with right atrial (9.7 cm) and right ventricular (5.4 cm) enlargement. Pulmonary artery peak pressure was 40 mmHg. Left atrium diameter was 8 cm. Left ventricular diastolic diameter was 5.2 cm and systolic function was normal with a 60% ejection fraction rate. Peak and mean gradients were 13 mmHg, 7 mmHg respectively over the mitral valve caged ball prosthesis. Hemolysis or anemia were not observed in laboratory tests. Diuretic medications were prescribed and because of symptoms did not relieve drug doses were progressively increased. Despite intensive medical therapy, echocardiographic and clinical right cardiac symptoms did not improve patient underwent tricuspid ring annuloplasty (Carpentier Edwards) and mitral valve re-replacement (St. Jude mechanical valve) operation. Operation was achieved through median sternotomy with mild hypothermic cardiopulmonary bypass. Operative and postoperative courses were uneventful. Control echocardiography before discharge revealed normal functioning valves. Caged ball mitral valve prosthesis inspected as macroscopically at the end of the operation. Although gradients were reported in preoperative transthoracic echocardiography, there were neither growth of pannus and structural integrity loss nor lipid infiltration over the valve (Fig. 1).

Discussion

Caged ball valve design was inspired from a wine bottle stopper, which was invented in 1858. Harken-Sorroff, Starr-Edwards, Magovern-Cromie fabricated and implanted caged ball valves in 1960. Only Starr-Edwards valve was designed for mitral position and others were designed for aortic position. Until appearance of tilting disc valve,

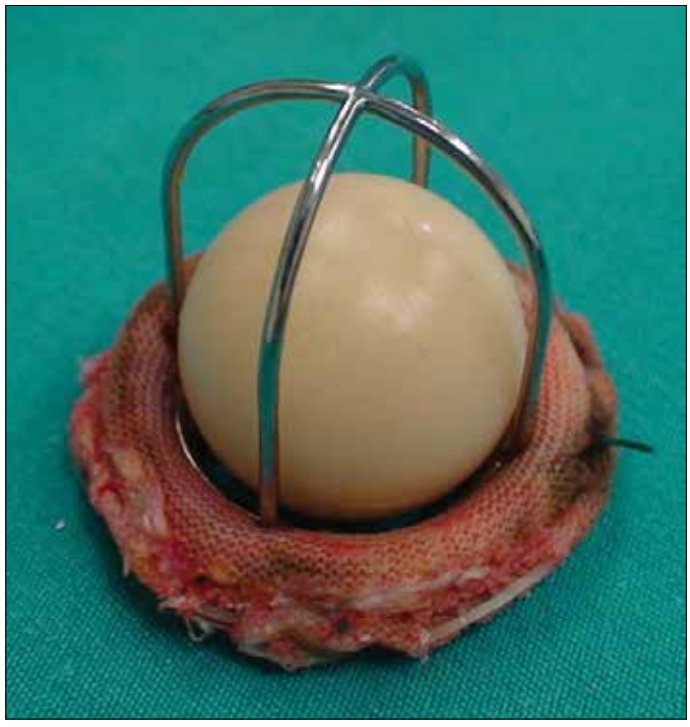

Figure 1. Removed Starr-Edwards mitral valve had no growth of pannus, structural integrity loss and also had no lipid infiltration on the surface of the silastic ball

Edwards laboratories had developed different series of ball valves during next 12 years (1). However, some defects due to the design of the valve such as unacceptable transvalvular gradient in smaller sizes, absence of central flow causing higher transvalvular gradients especially in aortic position and thromboembolic complications associated with the strut clothes had never been solved (2). The incidence of complications related to the Starr-Edwards valve, especially thromboembolism was higher compared with the bileaflet valves (3-5). Regarding these data, even in cases with functioning valves surgeons were tended to replace it with updated versions (6). However, except strut cloth, valve related complications were rare. The loss of structural integrity has only been reported only 2 times for mitral position (2). Recently published results of fifteen years follow-up suggest Starr-Edwards caged ball as a good choice for mitral position (7). Furthermore, several impressive durability case reports are available in the literature. Also Gögje et al. (8) published their thirty year experience with Starr-Edwards prosthesis and they recommend that caged balls after 20 -year durability should not be removed except patients who require additional cardiac operation for other indications.

Conclusion

In our case, patient was suffering from severe tricuspid regurgitation and he did not respond to the medications so operation decision was made. According to literature, we have performed tricuspid valve annuloplasty and mitral valve re-replacement with removing caged ball not to jeopardize patient`s rest life.

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Treatment of aortic valve stenosis and gastrointestinal bleeding by transcatheter aortic valve implantation in Heyde syndrome

Heyde sendromunda transkateter aort kapak implantasyonu ile aort stenozu ve gastrointestinal kanamanın tedavisi

Introduction

Transcatheter aortic valve implantation (TAVI) has recently emerged as an effective therapeutic option for patients with symptomatic, degenerative aortic stenosis (AS) and absolute or relative contraindications to surgical aortic valve replacement. The characterization of Heyde syndrome now refers to the triad of AS, acquired coagulopathy (von Willebrand syndrome type 2A, or vWS-2A) and anemia due to bleeding from intestinal angiodysplasia. Clinicians should be aware of the possibility of gastrointestinal (GI) bleeding due to angiodysplasia in patients with aortic valve stenosis.

Case Report

A 75-year-old female patient with a history of hypertension, chronic obstructive pulmonary disease, coronary artery disease (CAD) and