




CARDIOVASCULAR FLASHLIGHT

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Novel technique of sutureless pulmonic valve replacement for quadricuspid pulmonic valve with huge pulmonary artery aneurysm

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A 64-year-old woman presented with dyspnoea and oedema in both legs. Transthoracic echocardiogram (TTE) showed severe global hypokinesia of the left and right ventricles (LV and RV). The LV ejection fraction (EF) and RV fractional area change were 21% and 24%, respectively. Systolic doming of the pulmonic valve (PV) with severe regurgitation was noted (Panels A and B). Poor coaptation of the quadricuspid PV was revealed by 3D imaging (Panel C). Computed tomography (CT) confirmed quadricuspid PV with a huge aneurysm (maximum diameter, 87 mm) (Panels D and E). Considering poor LVEF, surgical time reduction was necessary. The Perceval sutureless valve (CORCYM, Saluggia, Italy) was originally designed for aortic implantation because of safe fixation to the annulus. However, if a firm circular annulus structure for Perceval implantation could be made, easier and faster PV replacement may be possible. First, PV leaflets were resected, and a proximal anastomosis using the Hemashield vascular graft was completed to make a firm fixation space. The Perceval valve was inserted into the vascular graft. After implantation, vascular graft was distally anastomosed to the PA bifurcation site, and the native PA was wrapped around the vascular graft (Panel F). To the best of our knowledge, this is the first case of Perceval implantation in the pulmonic position.

The postoperative course was uneventful. The implanted valve functioned well, as seen on postoperative TTE and CT (Panels G, H, and I). The patient was discharged on the 14th postoperative day with no adverse events at the 6-month follow-up.

The authors of this article declare that they have obtained informed consent from the patient included in this article.

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