A 59-month-old female child presented with decreased exercise tolerance of 1-year duration. She had undergone intracardiac repair for a diagnosis of tetralogy of Fallot with pulmonary atresia at 18 months of age. The right ventricle to pulmonary artery continuity had been achieved using a 14 mm size pulmonary homograft at that time. Nine months later, she had developed conduit stenosis for which a percutaneous balloon dilatation was attempted. Due to recurring symptoms, the patient presented to us again and underwent cardiac catheterization that revealed severe conduit stenosis that extended up to the origin of the left pulmonary artery (LPA) [Figure 1].

Revision of the conduit along with relief of LPA ostial stenosis was planned.

After an uneventful re sternotomy and systemic heparinization, standard normothermic cardiopulmonary bypass was established utilizing aortobicaval cannulation. Local carbon dioxide insufflation was used to facilitate deairing of cardiac chambers and to prevent systemic air embolism. On a beating, empty heat, the anterior wall of the conduit was opened and the incision was extended into the LPA well beyond the site of the stenosis. Two patches of bovine pericardium were chosen. One patch was sutured to the upper part of the incised conduit and another one patch was sutured to the lower part of the conduit and the ventriculotomy. These patches were designed to meet in the center at the point of the valve annulus of the conduit. Now, a thin polytetrafluoroethylene (PTFE) membrane (0.1 mm thick) was cut as a D shape and sandwiched between the two patches so that the base pointed toward the roof end and the curve of the D met the pulmonary valve annulus. In this way, a monocusp valve of the thin PTFE membrane was created [Figure 2]. The patient was uneventfully weaned off CPB. To assess the repair, a detailed transesophageal echocardiography (TEE) was performed [Figure 2]. Two-dimensional transesophageal echocardiography images [Figure 3] were obtained in the mid-esophageal view and the right ventricular inflow and outflow were visualized at an angle of 103°. These showed

Abstract

Transesophageal echocardiography can be a useful adjunct in assessing the quality of repair in patients undergoing novel methods of reconstruction of the right ventricular outflow. We present one such patient here.

Keywords: Conduit, right ventricular outflow, transesophageal echocardiography

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the presence of a working monocusp valve in the conduit. There was only a 4 mmHg gradient across the conduit. Video 1 shows the two-dimensional imaging of the entire right ventricular outflow tract that shows trivial pulmonary insufficiency across the reconstructed pulmonary valve.

TEE can be a useful adjunct to assess the quality of repair in such patients undergoing a novel reconstruction.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest
There are no conflicts of interest.