Successful Transcatheter Therapy in Partial Abnormal Pulmonary Venous Return with Additional Supply to Left Atrium

Poster Contributions
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Background: Our aim was to report clinical presentation, diagnosis and feasibility of transcatheter therapy in patients with partial abnormal pulmonary venous return (PAPVR) and an additional connection to the left atrium (LA).

Methods: Since 2001, 10 patients (7 girls) from 5 institutions were diagnosed at a median age of 35 (1 to 55) years old. Two had a Scimitar syndrome with an additional venous connection of the scimitar vein to the LA whereas 8 had a vertical vein connecting to the left upper pulmonary vein and to the LA. Two patients had an additional aortic coarctation and a secundum atrial septal defect was associated in 3 other cases.

Results: Three patients presented with symptoms whereas there were echocardiographic signs of right ventricle overload in 4 other cases. Diagnosis was confirmed by computed tomodensitometry and cardiac catheterization. Pulmonary artery pressure was normal in all the cases. In 2 patients, transcatheter occlusion of the 2 scimitar veins was successfully performed near their connection to the inferior vena cava with Amplatzer devices, associated with coil-occlusion of anomalous systemic arterial supply. In the other cases, the vertical vein was percutaneously occluded with Amplatzer devices in 5 patients, associated with secundum septal defect closure in 2 cases and aortic coarctation stenting in one patient. Surgical ligation of the vertical vein was performed in one patient. The vertical vein could not be occluded percutaneously in one asymptomatic patient with a restrictive connection to the left atrium and one patient with a severely stenotic bicuspid aortic valve is scheduled for surgery with concomitant ligation of the vertical vein.

Conclusions: In rare cases of PAPVR with an additional connection to the LA, transcatheter therapy can be offered as an alternative to surgery in the majority of the patients.