Merits and complications of the vertical vein in superior total anomalous pulmonary venous connection. A transcatheter closure series of 5 further cases.


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The vertical vein (VV) is frequently left non ligated after supracardiac TAPVC rechanneling, to avoid hemodynamic complications due to small left heart especially in case of obstructed connection.

Objective: We report here one centre experience in TAPVC rechanneling, and follow up of the VV.

Patients and methods: We have done a retrospective study to illustrate the outcome of supracardiac TAPVC since 1998. VV follow up was performed by colour-Doppler echocardiography and CT scan. Transcatheter closure of VV was performed under local anaesthesia.

Results: We had a total of 11 patients (7 males and 4 females). Diagnosis was done between the age of 1 and 120 days, all of them had undergone rechanneling. VV was not ligated in 4 out of 5 patients with obstructed connection, versus 3 out of 6 patients without obstruction. VV patency had no immediate post operative benefits in non obstructed TAPVC. On the opposite in obstructed connection, the ligation was associated with longer ICU stay duration as observed in our sole patient (33 days).

During follow-up, VV remained patent in 6 of 7 patients and required transcatheter closure in 5 patients because of significant left to right shunt. The shunt was negligible in the remaining patient.

The closure was successfully performed without complications with Amplazer Vascular Plug (type 2) at a median age of 4 years and 8 months. The device diameter was chosen up to 1.5 fold of the diameter of VV. The radiation doses ranged between 2 to 17 Gycm2. After closure, VV occlusion was confirmed in all patients.

Conclusion: Patent VV in non obstructed TAPVC does not change post operative course. Most non ligated VVs remain patent. Transcatheter occlusion with Amplazer Vascular Plug is a safe and effective procedure to suppress the left to right shunt.