



ADDITION OF SUBCUTANEOUS PROSTACYCLINE ANALOGUE IN RIGHT VENTRICULAR AFTERLOAD REDUCTION EARLY AFTER HEART TRANSPLANTATION - CASE SERIES

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Background:

Introduction: The treatment of right ventricular (RV) failure following heart transplantation (HTx) requires RV preload, afterload and contractility optimization. Here we report 4 cases of early post-



HTx RV dysfunction treated with RV afterload reduction by subcutaneous prostacyclin analogue.

Conclusion:

Conclusion: In this case series, we showed that the addition of treprostinil successfully decreased RV size and improved RV function in our patients whose early post-HTx period was complicated with sudden increase of RV afterload.

Case:

Case reports:

Case 1: 36-year-old male received HTx in September 2022 (donor heart ischemia time (DHIT) 230 min) due to advanced heart failure caused by dilated cardiomyopathy (DCM). Pretransplant right heart catheterization (RHC) showed PVR 3.3 WU and mPAP 28mmHg. RV dilatation and pulmonary hypertension were noted on post-HTx day 3. Treprostinil was started via subcutaneous pump, and 14 days later both RV size and RHC parameters improved (CVP 8mmHg, mPAP 21mmHg). Treprostinil was discontinued, and oral sildenafil was introduced. Follow-up (FUP) 4 months later showed normal RV size and RHC parameters.

Case 2: Two years after LVAD implantation for the treatment of AdHF caused by DCM, 31-year-old male received HTx in December 2022 (DHIT 125min). Pretransplant RHC showed PVR 0.78 WU and mPAP 21mmHg. On post-Htx day 5, RV dilatation with sPAP of 40 mmHg were noted, and the



combination of treprostinil and sildenafil were started. Fourteen days later pulmonary artery pressure normalized (mPAP 20mmHg). Two months later RV size was normal, but mPAP was 29 mmHg, and treprostinil was continued.

Case 3: 61-year old male patient with ischemic heart disease (IHD) and AdHF was transplanted in January 2023 (DHIT 190min). Pretransplant RHC showed PVR 3.1 WU and mPAP 51mmHg. On the post-HTx day 14, RV dilatation with severe tricuspid regurgitation (TR) and mPAP 26mmHg were found. Trepostinil was initiated along with sildenafil, and 2 months later RV size and TR normalized. Since mPAP remained elevated, the therapy was continued.

Case 4: 51-year old male patient with IHD and AdHF was transplanted in January 2023 (DHIT 100 min). Due to elevated pretransplant PVR, the patient was put on sildenafil, and the control RHC showed PVR 2 WU and mPAP 24 mmHg. On post-HTx day 4, RV dilatation with massive TR, and mPAP of 24 were found. Treprostinil was started on top of sildenafil. Two months later, both RV size and hemodynamic parameters normalized, and treprostinil was stopped while sildenafil was continued.