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Title: Resolution of portopulmonary hypertension (POPH) following liver transplantation

Michael 6177 Krowka krowka@mayo.edu MD , Rodrigo 6178 Cartin-Ceba Cartin-Ceba@mayo.edu MD and Karen 6179 Swanson swanson.karen@mayo.edu MD . [1] Transplant Center, Mayo Clinic, Rochester, MN, United States, 55905 .

Body: Background. Pulmonary artery hypertension, a consequence of portal hypertension, is referred to as portopulmonary hypertension (POPH). Untreated moderate to severe POPH is a relative contraindication to liver transplantation (LT). Aims: To summarize the Mayo Clinic medical management and LT outcomes in moderate to severe POPH. Methods: From 2002-2012, we analyzed the pulmonary vasomodulating (PV) treatments and LT outcomes in consecutive POPH patients with right heart catheterization (RHC) criteria: mean pulmonary artery pressure - MPAP ≥ 35 mmHg and pulmonary vascular resistance - PVR ≥ 3 Wood units). All patients underwent sequential transthoracic echocardiography (TTE; both pre and post-LT) and RHC (pre-LT baseline, with therapy and intraop; not done post-LT). TTE assessed right ventricle (RV) size, function and RV systolic pressure estimate (RVSP). Results: We managed 65 POPH patients; LT was attempted in 13/65 patients only if PV therapies resulted in MPAP < 35 mmHg and PVR < 5 wood units or normalization of PVR (< 3 Wood units). RV size and function were abnormal in all patients pre-LT. Mean pre-LT baseline vs treated hemodynamics were significantly improved; MPAP (44 → 32 mm Hg, p<.04); CO = 6.1 → 9.7 L/min, p<.005); and PVR (5.9 → 2.3 Wood units, p<.02). Intraoperative death (1), transplant hospitalization death (2) and late death (1) occurred. All survivors (9/13) normalized RV function; 6 normalized RV size; 6/9 were weaned off PV therapies. Post-LT mean RVSP improved significantly vs pre-LT (33 mmHg; range 26-41 vs 71 mmHg; range 45-91. p<.001). Conclusions; LT can result in POPH resolution (defined by sequential TTE) and liberation from PV therapies in selected patients.