**1022**

**Pulmonary Hypertension in End Stage Renal Disease: An Examination of Hemodynamic Responses Following the Inhaled Vasodilator Challenge**

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**Background:** Substantial literature has been published providing evidence that PH portends a worse prognosis in ESRD patients on HD. Much of this literature, however, has been echo-based, which is known to have discordance with right heart catheterization (RHC) and cannot distinguish between pre and post-capillary PH. Given severe PH is a contraindication to major surgery such as renal transplantation, identifying PH patients that may be amenable to vasodilator therapy and ultimately transplantation remains an important topic of research.

**Methods:** We present a single center, retrospective cohort study of 34 ESRD patients on HD with PH (mPAP ≥ 25mmHg). We included patients with ESRD on HD with PH diagnosed by RHC. All patients had RHC performed with hemodynamic measurements recorded post-hemodialysis as well as post-NO administration, with doses ranging from 40-80 ppm. Nitric oxide was used in conjunction with supplemental O2 to assess response. Pre-capillary PH was defined as mPAP ≥ 25mmHg with PCWP ≥ 15mm Hg. Pulmonary vascular resistance (PVR) was quantified in Woods units.

**Results:** Within our cohort, inhaled vasodilator testing was performed on 12/34 patients. Of those tested, 9/12 patients had pre-capillary PH and 3/12 patients had post-capillary PH. In terms of etiology of ESRD within the pre-capillary group, we noted 5/9 (55.6%) diabetes mellitus, 3/9 (33.3%) hypertension, and 1/9 (11.1%) multiple myeloma. Overall, we observed a mean reduction in PVR of 44.4%, mean reduction in mPAP of 15.9%, mean COpost/COpre of 1.35, and mean ΔPCWP of +2.67mmHg. Within the pre-capillary subgroup, we observed a mean reduction in PVR of 40.2%, mean reduction in mPAP of 8.4%, mean COpost/COpre of 1.31, and mean ΔPCWP: +2.8. Following testing 6/9 (66.7%) of the pre-capillary subgroup were deemed suitable candidates for vasodilator therapy based on hemodynamic responses.

**Conclusions:** We present a cohort of PH patients with ESRD on HD who display, on average, significant reduction in mPAP and PVR, improved CO and minimal increase in PCWP following inhaled vasodilator testing. Notably, 6/9 (66.7%) of our pre-capillary PH patients were deemed candidates for vasodilator therapy following invasive hemodynamic testing. Also of note, the majority of our cohort developed ESRD from comorbidities unrelated to PH group 1. Our findings imply that there exists a subset of PH patients with ESRD that may be amenable to traditional vasodilator therapy. Further studies to explore this phenotype and the role of traditional therapy, especially in the setting of evaluation for renal transplantation, may be warranted.

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