PULMONARY HYPERTENSION IN AN INNER CITY ESRD POPULATION ON HEMODIALYSIS: PREVALENCE, RISK FACTORS FOR, AND ASSOCIATIONS WITH MORTALITY.

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Pulmonary hypertension (PHT) is a well-known complication of heart, lung, and systemic disorders, with increased morbidity and mortality regardless of its etiology. Recently there has been evidence showing a disproportionately high prevalence of PHT among patients with End Stage Renal Disease (ESRD) receiving long-term hemodialysis (HD) via surgically created arteriovenous fistulas. We hypothesized that PHT in an inner city ESRD population on HD is a significant contributor to patient morbidity and mortality.

We determined the prevalence of PHT by retrospective review of 2D-echocardiogram data collected from 110 patients on HD from 01/01/05–12/31/06. PHT was defined by a pulmonary artery pressure (PAP) > 35 mmHg. After excluding patients with known valvular heart disease, hypoxemic lung disease, collagen vascular disease, congestive heart failure (defined by EF<50%) and pre-existing PHT, data from 60 patients were available for analysis (Mean age 58.6 ± 2.02 years; Female 53%; 51% African American; and 41% Hispanic). Patients with PHT were more likely to have diabetes than those without PHT (57% vs. 43%; p=0.04). There were no other differences in demographics, co-morbid conditions, dialysis adequacy and vascular access use between the two groups.

Twenty-six (43%) patients had an elevated PAP suggesting PHT (mean PAP 49.5 ± 8.39mmHg). Patients were followed for mortality up to November 2007 (deaths = 23). Using unadjusted logistic regression, the odds ratio for mortality in those with PHT was 3.24 (p=0.03) compared to those without PHT. Sequential adjustment for age, sex, race, duration on HD, type of vascular access, calcium, phosphorous, hemoglobin, PTH, Kt/V did not significantly change the odds ratio for mortality. Adjustment for diabetes attenuated the odds ratio to 2.95 (p=0.06).

This study suggests an increased prevalence of PHT in ESRD patients on HD, which may confer an increased risk of mortality. Further studies examining the possible etiologies for PHT are warranted.