**VASODILATOR TESTING FOR IDIOPATHIC PULMONARY HYPERTENSION: IS IT REALLY NECESSARY?**

**H. Doshi**, J. Xu, A. Alam

Robert Wood Johnson, New Brunswick, NJ, USA

**Objective:** - Discuss the potential role of empiric calcium channel blocker (CCB) therapy in idiopathic pulmonary arterial hypertension (IPAH).

- Highlight the clinical utility and cost effectiveness of vasodilator testing for IPAH.  
**Case Presentation:** 72 year old male presents with worsening shortness of breath and increasing oxygen requirement for six weeks and is found to have elevated pulmonary arterial pressures (PAP) on right heart catheterization. Workup for other etiologies of pulmonary hypertension was negative and IPAH was diagnosed. Despite having a positive response to vasodilator testing the patient failed a trial of high dose diltiazem. Pulmonary arterial pressures remained elevated with worsening hemodynamic parameters as well as hypoxemia despite multiple trials of combination therapies. Repeat right heart catheterization revealed persistent elevations of PAP with low wedge pressures. Deemed to be a World Health Organization (WHO) functional Class IV patient, he was transferred to a lung center for further management.

**Discussion:** Current recommendations evidence for idiopathic pulmonary arterial hypertension based on empiric and retrospective suggest that patients should undergo pulmonary vasodilator testing prior to initiating CCB therapy. Recent studies have found no difference in 10-year survival in PAH patients with a positive pulmonary vasodilator test. Only approximately 10% of patients with IPAH will be vasoreactive, and only half of these will be long term responders. The cost of the test is up to $8000 compared to the actual therapy itself which for most individuals is under $50. Subjecting every IPAH patient to a test with such a low positive predictive value does not seem cost effective. Adverse effects of systemic hypotension, worsening right heart failure, and death from empiric CCB therapy are overstated and can also occur in patients with a positive vasodilator response as seen in this case. We believe that in IPAH patients of WHO functional class of 3 or 4, empiric therapy with CCB while foregoing vasodilator testing may be warranted. Further studies regarding cost-benefit analysis of pulmonary vasodilator testing in IPAH need to be done.