

 MYOCARDIAL ISCHEMIA AND INFARCTION**TRENDS OF ENHANCED EXTERNAL COUNTERPULSATION THERAPY IN THE US: REIMBURSEMENT SHAPES THE USE BUT NOT THE OUTCOME**

ACC Poster Contributions

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Session Title: Novel Emerging Therapies for Chronic Ischemic Syndrome

Abstract Category: Stable Ischemic Syndrome

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Background: The clinical use of Enhanced External Counterpulsation (EECP) has evolved over the past 20 years in the US.

Methods: Prospective tracking of consecutively enrolled US patients (pts) in the International EECP Pt Registry, at the Epidemiology Ctr, U of Pittsburgh, 1998-2004 were included. Neither treatment sites nor pts were paid. The study was conducted with appropriate Human Subjects approval and oversight. The trend by year of demographics, entry characteristics, and outcomes of treated pts were analyzed.

Results: There were 7,808 IEPR pts. Significant baseline changes over the 6 years included: increasing age and incidence of females (both $p < 0.05$), increasing CAD duration, more frequent prior PCI, CABG, MI (all $p < 0.001$). Baseline risk factors increased: diabetes and current smoking (both $p < 0.05$), hypertension, hyperlipidemia, and family history of premature CAD (all $p < 0.001$). Pts at baseline had significantly worse CCS functional class, increased # of anginal episodes and use of NTG (all $p < 0.001$). The incidence of multivessel CAD increased ($p < 0.05$) and PCI/CABG candidacy decreased ($p < 0.001$). Medications (BB, ACEIs, ARBs, nitrates) all increased (all $p < 0.001$). Hours of treatment decreased by 2 hours ($p < 0.001$). Over the 6 years, however, a similar % of pts completed EECP. Skin breakdown ($p < 0.001$), musculoskeletal complaints ($p < 0.01$), and ACS ($p < 0.05$) during EECP all increased significantly; the incidence of major adverse cardiac events remained low. Angina class post EECP was noted to change significantly over time ($p < 0.001$) with the % of pts improving 1 or more angina classes ($p < 0.001$) and the mean decrease in anginal episodes ($p < 0.01$) increasing over time.

Conclusions: Trends over time show an increasing severity of illness, greater comorbidity, and shorter treatments in EECP pts. These changes may be related to reimbursement coverage policy. The increased severity of illness was associated with greater treatment morbidity. However, despite the increasing severity of coronary disease (<10% revascularization candidates) and comorbid risk factors in treated pts, EECP remained effective for refractory angina, consistently improving angina class in about 75% of pts.