Enhanced External Counterpulsation Reduces Angina and Improves Quality of Life in Elderly Unrevascularizable Patients


Background: When treating elderly patients (E) (>75 years) with symptomatic coronary artery disease (CAD), it is unclear whether the acute risks of revascularization are counterbalanced by better long-term survival or functional outcomes. Enhanced external counterpulsation (EECP) is a noninvasive treatment similar to the intra-aortic balloon pump, which is designed to increase myocardial perfusion pressure and decrease cardiac workload. EECP has been demonstrated to be safe and effective in treating angina; however, whether it is safe and effective in E who are not considered candidates for further revascularization is unknown.

Methods: The study group consisted of 550 patients consecutively enrolled in the inter-national EECP Patient Registry who were ≥75 years and not considered candidates for further revascularization.

Results: The mean age was 79.9 ± 4.4 years. Most patients had prior revascularization: 72% prior coronary artery bypass graft surgery; 56% prior percutaneous coronary intervention. Mean left ventricular ejection fraction was 45%, and 23% of E had an ejection fraction <35%. Multivessel disease was present in 85% of patients, with 87% of E reporting Canadian Cardiovascular Society (CCS) angina class III or IV. Treatment was completed as prescribed in 80% of patients, with a mean of 32 treatment hours. The rate of major adverse cardiac events during treatment was low (<3%). Upon completion of EECP treatment, E reported significant reduction in angina (mean CCS class, pre-3.1 vs. post-1.9), and significant reduction in episodes of angina (mean episodes/week, pre-9.4 vs. post-2.4) and nitroglycerin use (mean, pre-9.4 vs. post-2.7). Of 74% of E using nitroglycerin at the start of treatment, 42% of E required nitroglycerin post-EECP treatment. Patient assessed quality of life scores were also significantly improved post-treatment. All changes, pre-and post-EECP were statistically significant with p < 0.001.

Conclusion: Symptomatic CAD in elderly patients who are unsuitable for revascularization, EECP provides an innovative tool that improves functional outcome and quality of life.

9:30 a.m.

White Coat Hypertension Increases Cardiovascular Risk in Elderly

Jose A. Alpizar, Tulio A. Sulbaran, Egle Silva, Gladys Maseletcher, Centro de Enfermedades Cardiovasculares, Maracaibo, Venezuela, La Universidad del Zulia, Maracaibo, Venezuela.

Background: There are no long-term follow up studies about white coat hypertension (WCH) in Venezuela; on the other hand there is a controversy about the risk provided by this condition. The aim of this study was to establish the prognostic value of Ambulatory Monitoring Blood Pressure (ABPM) for cardiovascular (CV) morbidity in elderly.

Methods: The study included a sample of 609 subjects older than 55 years who underwent non-invasive ABPM when enrolled in the study and were prospectively followed since that moment until a nonfatal cardiovascular event occurs or the ending of the study. The maximal follow up time was 31.5 months (mean 20).

Nondippers showed a higher rate of CV events: 10.9 vs. 6.3 (p = 0.001), 13.2% vs. 8.0% (p = 0.01) and 17.5% vs. 12.8% (p = 0.02). The incidence of CV events in nondipping women with white coat hypertension (16.76 per 100 pec/yr) groups (p < 0.01). The difference between survival curves was highly significant (Fig. 1). Nondipper women had a higher rate of CV events, with a cumulative incidence of 9.0% vs. 4.8% (p = 0.01) at 10 years. The Cox regression analysis showed that the presence of white coat hypertension in elderly women was associated with a significant increase in the risk of CV events (HR 2.88; p = 0.03).

Conclusion: White coat hypertension is associated with a higher rate of CV events in elderly women. The presence of white coat hypertension increases the risk of CV events by 17%.

9:45 a.m.