Heart

5.4 Studies on Left Ventricular Hypertrophy Regression in Arterial Hypertension: A Clear Message For The Clinician?

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Introduction. Evidence-based medicine should provide clear and unbiased information to clinicians. We conducted an analysis on published randomized trials evaluating the effects of antihypertensive therapy on left ventricular (LV) morphology assessed by echocardiography to investigate: (1) the consistency of criteria used for definition of LV hypertrophy (LVH); (2) the consistency of the way LVH regression and blood pressure (BP) control were reported.

Methods. Studies identified by a PubMed search were eligible for inclusion in the analysis if they fulfilled the following criteria: (a) publication in a peer-reviewed journal within the last 12 years; (b) double blind, randomized, controlled, parallel-group design; (c) at least 50 adult hypertensive subjects; (d) follow-up duration of at least 6 months; (e) comparison between single drugs or association regimens; (f) LV mass or wall thickness measured by echocardiography.

Results. Thirty-nine trials, including 9162 hypertensive subjects of both genders in 78 active treatment arms or in 6 placebo arms were identified. Definition of LVH was provided by 34 studies (87.1%) according to 19 different criteria. All trials evaluated LVH regression as the absolute or relative changes of continuous variables such as LV mass index or LV wall thickness. Data concerning prevalence rates of LV mass normalization were reported in 12 studies (30.7%). The percentage of patients reaching BP target (<140/90 mmHg) was reported in 11 studies (28.2%).

Conclusions. Our findings indicate that: (1) definition of hypertensive LVH phenotype is extremely variable; (2) no precise information on LVH regression rates or changes in LV geometrical patterns as well as on target BP is provided by the majority of papers.