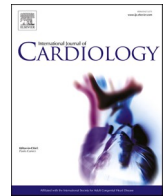




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Letter to the Editor

Volumetric and functional left atrial abnormalities in different disorders – are these alterations specific?

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I am reading the paper of Keulards et al. in which the relationship between coronary microvascular resistance and left atrial (LA) strains as assessed by two-dimensional speckle-tracking echocardiography (2DSTE) was investigated [1]. Although the manuscript is well written and the discussion is clear, it needs some revision. Three-dimensional (3D) speckle-tracking echocardiography (3DSTE) is a more advanced non-invasive imaging method than 2DSTE. During 3DSTE, the same virtually created 3D model of the LA can be used for simultaneous assessment not only of LA strains but LA volumes and volume-based functional properties including stroke volumes and emptying fractions respecting the cardiac cycle as well allowing detailed assessment of the LA (2). In some disorders, only mild volumetric changes could be demonstrated without global LA strain abnormalities affecting only certain phases of LA function like in young patients with type 1 diabetes mellitus [2]. In noncompaction and hypertrophic cardiomyopathies and cardiac amyloidosis, significant LA volumetric and contractility abnormalities represented by LA strains could be demonstrated affecting all phases of LA function [2,3]. Interestingly, moderate LA abnormalities were found in elite athletes, as well [4]. While ‘abnormalities’ meant deterioration of LA contractility represented by reduced LA strains in these disorders, significant augmentation of LA contractility represented by increase in certain LA strains was present in acromegaly, suggesting their compensatory effects [5]. All these abnormalities could be explained by disease-associated volume and/or pressure changes, coronary perfusion abnormalities (resistance), alterations in tissue quality including storage, fibrosis, edema, etc. However, important questions remained unanswered such as: are these changes associated with these non-valvular disorders are specific? What happens with aging and treatment? Therefore, further studies are warranted to confirm these findings and to clarify any prognostic impact as well.

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