



Impaired left atrial strain in the presence of interatrial block in patients with type 2 diabetes mellitus

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Published online: 17 May 2021

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Editorial commentary

I read with great pleasure the interesting study evaluating "Impaired left atrial strain in the presence of interatrial block in patients with type 2 diabetes mellitus" by Dogdus et al. [1]. Three-dimensional speckle-tracking echocardiography (3D-STE) is an advanced imaging modality which is capable of quantifying left atrial (LA) and left ventricular (LV) volumes and functions [2]. LA size and function assessed using echocardiography have been demonstrated to detect poor cardiovascular outcomes. Compared with conventional methods, 3D-STE has advantages of semiautomatic character, being less affected by artifacts, and being ultrasonic beam angle-independent. 3D-STE is widely used for LA functional assessment in clinical practice [3, 4].

Type 2 diabetes mellitus (T2DM) is associated with higher risks of ischemic cardiovascular and cerebral events, and also a 40% higher risk of atrial fibrillation (AF) [5, 6]. It is known that T2DM is a risk factor for atrial cardiomyopathy. Atrial fibrosis, which occurs during the process of atrial cardiomyopathy, is considered to be the main pathophysiological mechanism leading to interatrial block (IAB).

IAB, a delay of conduction over the Bachmann bundle, is manifested on the 12-lead electrocardiogram (ECG) by a P-wave duration > 120 ms either with biphasic (\pm) morphology in the inferior leads [advanced IAB, (a-IAB)] or without it [partial IAB, (p-IAB)] [7]. IAB is known to be associated with AF, left atrial electromechanical dysfunction, heart failure, and increased cardiovascular morbidity and mortality [8–10]. Therefore, as stated by Dogdus M et al., electro-mechanical evaluation of the left atrium with more sensitive techniques is important when considering ischemic

cardiovascular and cerebral events in patients with IAB and/or at risk of developing IAB.

In this article [1], Dogdus et al. aimed to compare the LA and LV myocardial functions in patients with T2DM with and without IAB by 3D-STE, and their study demonstrated that there is an impairment in LA myocardial dynamics in the presence of IAB in T2DM patients. They found that the LAS-r and LAS-active were significantly decreased in the IAB (+) group than the control. It is of great importance to detect any cardiovascular disease at the preclinical stage before its negative consequences. In the presence of IAB, which is a predictor of a disease with poor outcomes such as AF, early detection of left atrial dysfunction will be useful for clinicians in the management of the disease. I think future large-scale multi-center clinical studies are needed to validate and expand upon the authors' results.

Declarations

Conflict of interest The author declares no conflict of interest.

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