

## Speckle-Tracking Echocardiography and Advanced Interatrial Block

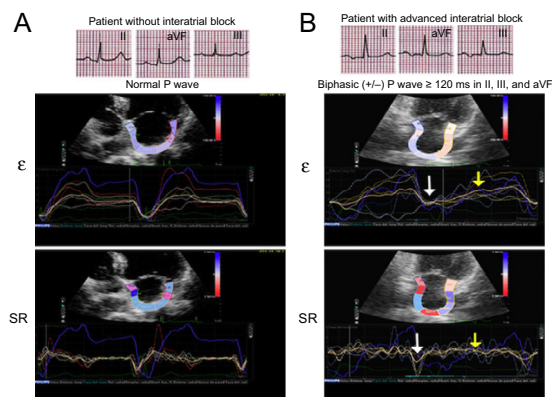
Ecocardiografía de *speckle tracking* y bloqueo interauricular avanzadoJuan Lacalzada-Almeida,<sup>a,\*</sup> Javier García-Niebla,<sup>b</sup> and Antonio Bayés-de Luna<sup>c</sup><sup>a</sup>Sección de Imagen Cardíaca, Servicio de Cardiología, Complejo Hospitalario Universitario de Canarias, La Laguna, Santa Cruz de Tenerife, Spain<sup>b</sup>Centro de Salud Valle del Golfo, Servicios Sanitarios del Área de Salud de El Hierro, Frontera-El Hierro, Santa Cruz de Tenerife, Spain<sup>c</sup>Institut Català de Ciències Cardiovasculars, Hospital de la Santa Creu i Sant Pau, Barcelona, Spain

Figure.

Patients with advanced interatrial block (aIAB) have a conduction delay and anomalous left atrium (LA) due to its aIAB-induced caudocranial activation. This type of block is a risk factor for future supraventricular arrhythmias (Bayés syndrome).

The LA can be anatomically and functionally evaluated using transthoracic echocardiography (TTE). Speckle-tracking (ST) TTE, a recent addition to this imaging tool, allows assessment of atrial wall deformation. This technique can be used to obtain apical images of the LA and appropriate software can semiautomatically measure the strain ( $\epsilon$ ) and strain rate (SR). These values permit the generation of curves showing the longitudinal peak systolic strain of each segment of the LA and the global mean.

Figures A-B show the electrocardiogram,  $\epsilon$ , and SR of 2 patients, 1 with and 1 without aIAB. These patients had similar age, comorbidities, and TTE findings; neither showed supraventricular arrhythmias. In the patient with aIAB, there is a decreased  $\epsilon$  and SR of the LA in the contractile (white arrow) and reservoir (yellow arrow) phases, as well as dispersion of the homogeneous deformation peaks among the different atrial segments.

These findings indicate that ST TTE of the LA can explain how functional variations stem from anatomical changes, which are closely linked to the atrial fibrosis found in patients with aIAB. As far as know, this is the first time that these electromechanical correlations have been shown in people with and without aIAB.

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