

Quantification of a left atrial myxoma by three-dimensional speckle-tracking echocardiography (From the MAGYAR-Path Study)

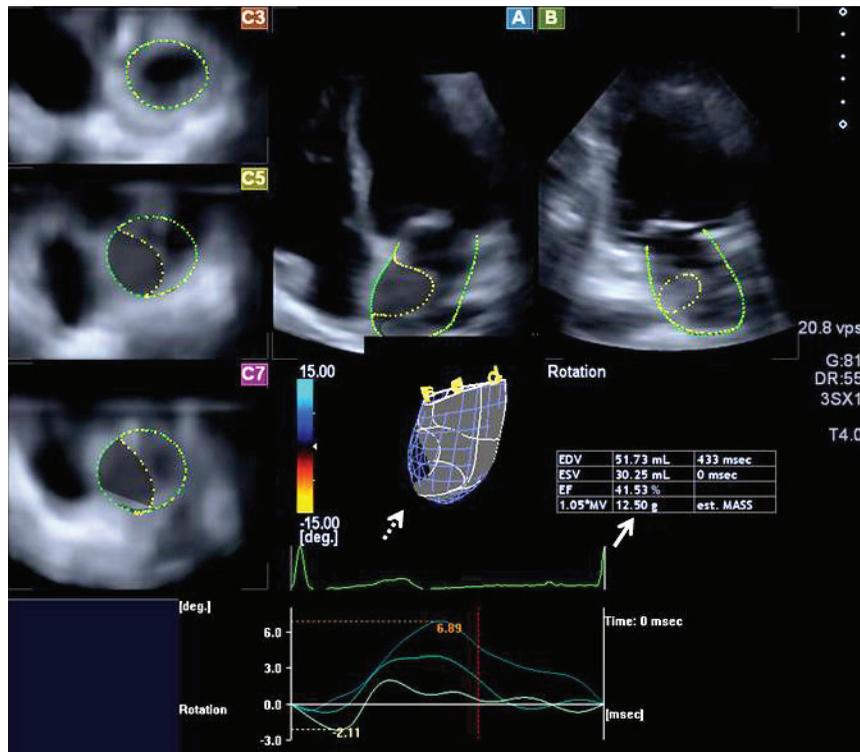
Üç boyutlu speckle-tracking ekokardiyografiyle sol atriyum miksomasının niceliksel değerlendirilmesi (MAGYAR-Path çalışması)

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Cardiac myxoma is the most common primary cardiac tumor and is often associated with different symptoms or causes sudden death. Its diagnosis is commonly based on echocardiography. Three-dimensional (3D) speckle-tracking echocardiography (3DSTE) is a new non-invasive clinical tool to quantify volumes, strain values and rotational characteristics of heart chambers. However, little is known of its role in the evaluation of cardiac tumors. Therefore, we present a 68-year-old female patient with a left atrial (LA) myxoma, who was examined by routine echocardiography extended with 3DSTE. The patient was involved in the **MAGYAR-Path Study** (Motion Analysis of the heart and Great vessels by three-dimensional speckle-tracking echocardiography in Pathological cases). The

multiple long- (A, B) and short-axis (C3, C5, C7) views of the LA extracted from a 3D echocardiographic dataset are shown in the Figure. Due to software limitations in assessing “extra tissues” in cardiac chambers by 3DSTE, manipulations were used to quantify the LA myxoma. Both “epicardial and endocardial borders” of the LA could be defined by 3DSTE for mass evaluations. In the present case, the endocardial border of the LA was defined manually in multiple views as the “epicardial border”. In the presence of the myxoma, the border of the tumor served as the “endocardial border”, and where the myxoma was not present, the “endocardial and epicardial borders” were the same. Therefore, “estimated LA mass” represents “estimated tumor mass” (see white arrow). The localisation, shape and all dimensions of the tumor could also be spatially, but negatively demonstrated (dashed arrow) together with LA volumetric data and rotational characteristics (see table and curves). However, further studies are warranted to confirm accuracy of this methodology.



Figure– Three-dimensional speckle tracking echocardiographic quantification of the left atrial myxoma.