

Clinical-Medical Image

## Prognostic Significance of Speckle Tracking Echocardiography Strain in Arrhythmogenic Right Ventricular Cardiomyopathy Patients

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### Brief Report

Speckle Tracking Echocardiography has emerged as a valuable tool in the assessment of myocardial deformation, offering detailed insights into ventricular function. Its application in Arrhythmogenic Right Ventricular Cardiomyopathy provides important prognostic information, particularly concerning strain analysis. ARVC is a genetic disorder characterized by fibrofatty replacement of the myocardium, predominantly in the right ventricle, leading to arrhythmias, heart failure, and sudden cardiac death. While conventional imaging modalities such as echocardiography and cardiac MRI remain pivotal for diagnosis, STE has gained recognition for its ability to detect subtle functional impairments that might not be apparent through traditional methods.

Global and regional strain abnormalities detected by STE are associated with adverse outcomes in ARVC patients. Reduced longitudinal strain in the right ventricle has been linked to the extent of structural remodeling and arrhythmic burden. Furthermore, strain parameters provide incremental prognostic value by identifying early myocardial dysfunction, even in gene-positive individuals without overt disease manifestations. This enables timely risk stratification and management, potentially altering the clinical course. Studies have shown that abnormal strain values are predictive of major adverse cardiac events such as ventricular arrhythmias and sudden cardiac death. Consequently, strain assessment can complement existing risk models, enhancing their predictive accuracy. Moreover, strain analysis facilitates disease monitoring over time, offering a quantitative measure of progression or response to therapy.

Strain by STE is a promising non-invasive marker with significant prognostic implications in ARVC. Its ability to detect subclinical dysfunction, predict adverse outcomes, and monitor disease progression underscores its importance in the comprehensive evaluation of ARVC patients. Integrating STE into routine clinical practice may improve risk stratification and optimize patient management, ultimately contributing to better outcomes in this challenging population [1,2].

**Keywords:** Right ventricular dysfunction; Cardiomyopathy prognosis; Prognostic significance

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### Conflict of Interest

None.

### References

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