

# STUDY OF LEFT VENTRICULAR FUNCTION IN DUAL CHAMBER PACEMAKER PATIENTS WITH DIFFERENT ATRIOVENTRICULAR DELAY VALUES

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## *Introduction*

Atrioventricular synchrony is essential for reaching the most efficient cardiac functioning with best filling and most advantageous cardiac output. Various methods have been used in past studies to optimize ventricular contraction timing in relation to atrial contraction timing. The most popular is the echo Doppler with assessment of the mitral valve flow using the pulsed wave Doppler. We compared the best Atrioventricular delay (AVD) duration as assessed by different echocardiographic markers to that obtained from assessment of the mitral valve flow in 50 patients with DDD pacemakers.

## *Aim of the work*

To assess how close different echocardiographic methods of atrioventricular interval optimization are to the standard mitral valve Doppler method.

## *Patients and Methods*

The study group was formed of 50 patients with DDD pacemakers with good left ventricular function and not more than mild valvular dysfunction. On the day of programming session echocardiographic assessment was done assessing across the range of 120 to 200 ms atrioventricular delays different echocardiographic parameters as the mitral valve flow profile, myocardial performance index (MPI), Stroke volume with variable methods and diastolic filling time (DFT).

## *Results*

Mean optimized AVD according to the best mitral valve inflow profile was  $(166 \pm 23)$  ms, according to cardiac output was  $(190 \pm 8)$  ms, according to MPI was  $(160 \pm 34)$  ms and according to DFT was  $(132 \pm 19)$  ms.

## *Conclusion*

Variable methods of AVD optimization result in variable AVD values. The chosen method should include the standardized mitral inflow assessment and must target both systolic and diastolic performance.



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