Hubungan antara Komponen Parameter Fungsi Diastolik Ventrikel Kiri dengan Durasi AV Delay Optimal pada Pasien dengan Pacu Jantung Dual Chamber = Correlation Between Diastolic Function Parameters and Optimal AV Delay Duration in Patient with Dual Chamber Pacemaker

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Abstrak

[Latar belakang. Durasi AV delay (DAVD) pada pasien dengan pacu jantung dual chamber menentukan derajat sinkroni atrioventrikular (AV). Pengaturan DAVD yang optimal pada pasien dapat meningkatkan kualitas hidup dan memperbaiki parameter hemodinamik jika dibandingkan dengan pasien yang tidak dilakukan optimalisasi . Namun optimalisasi DAVD merupakan prosedur yang memakan waktu dan biaya. Perlu dicari faktor-faktor yang mempengaruhi nilai DAVD yang optimal.
Metode. Penelitian ini merupakan studi potong lintang. Evaluasi dilakukan pada 35 pasien blok AV total dengan pacu jantung permanen dual chamber yang datang ke poliklinik RS Jantung Nasional Harapan Kita periode bulan Oktober sampai dengan pertengahan November 2014. Dilakukan pemeriksaan ekokardiografi terhadap parameter fungsi diastolik pada saat DAVD awal (DAVD pabrikan), lalu dicari DAVD optimal menggunakan VTI-LVOT terbesar.
Hasil. Terdapat korelasi lemah antara paramater fungsi diastolik rasio E/A dan nilai DAVD optimal (r -0,356 dengan p 0,036). Analisa regresi linear antara rasio E/A dengan nilai DAVD optimal (adjusted analysis sesuai usia, fraksi ejeksi, dan DAVD pabrikan) menunjukan nilai koefisien -0.477 dengan nilai p 0,007 (IK 95% - 84.4 s.d. -14.1). Analisa regresi linear antara nilai e' medial dengan DAVD optimal menunjukkan tingkat kemaknaan dengan nilai koefisien -0.390 dan nilai p 0.026 (IK 95% -16.3 s.d. -1.1). Terdapat perbedaan rerata DAVD optimal, 173.46 ±42.23 ms untuk pasien dengan rasio E/A 1, dan 128.89 ± 42.5 ms untuk rasio E/A <1 (p:0.01).
Kesimpulan. Terdapat korelasi negatif yang bermakna antara parameter fungsi diastolik (E/A dan e' medial) dengan DAVD optimal pada pasien dengan pacu jantung permanen dual chamber.;Background. AV Delay Duration (AVD) in patient with dual chamber pacemaker defines atrioventricular synchrony. Optimazation of AVD could improve quality of life and hemodynamic parameters compared to factory setting. Despite that, AVD optimization is a time consuming procedure and not cost effective. factors that influence the optimal AVD should be sought.
Methods. This is a cross sectional study on 35 total AV block patients that came to National Cardiovascular Center Harapan Kita from October to November 2014. Echocardiography on left ventricle diastolic indices was performed in factory setting AVD. The AVD that gives to the biggest LVOT VTI was set as the optimal AVD. Statistical analysis was done to correlate between diastolic indices and optial AVD.
Results. Weak correlation was noted between diastolic indices (E/A ratio) and optimal AVD (r: - 0,356; p: 0,036). Linear regression analysis showed a negative correlation between E/A ratio {coefficient -0.477; p: 0,007 (CI 95% - 84.4 to -14.1)} and medial e' {coefficient -0.390; p: 0.026 (CI 95% -16.3 to -1.1)} with optimal AVD (adjusted with age, ejection fraction, and factory setting AVD). Different E/A ratio showed a different optimal AVD mean, 173.46 ±42.23 ms for E/A 1 vs. 128.89 ± 42.5 ms for E/A <1 (p:0.01).

Conclusion. This paper shows a negative correlation between echocardiographic diastolic function indices (E/A ratio and medial e') with optimal AVD., Background. AV Delay Duration (AVD) in patient with dual chamber pacemaker defines atrioventricular synchrony. Optimazation of AVD could improve quality of life and hemodynamic parameters compared to factory setting. Despite that, AVD optimization is a time consuming procedure and not cost effective. factors that influence the optimal AVD should be sought. Methods. This is a cross sectional study on 35 total AV block patients that came to National Cardiovascular Center Harapan Kita from October to November 2014. Echocardiography on left ventricle diastolic indices was performed in factory setting AVD. The AVD that gives to the biggest LVOT VTI was set as the optimal AVD. Statistical analysis was done to correlate between diastolic indices and optial AVD.
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Conclusion. This paper shows a negative correlation between echocardiographic diastolic function indices (E/A ratio and medial e') with optimal AVD.]