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التوثيق الالكتروني والميكروفيلم

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قسم

نقسم باللّه العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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بالرسالة صفحات
لم ترد بالأصل

Biventricular versus left ventricular pacing in heart failure

Thesis submitted for partial fulfillment of MD degree in cardiology

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Introduction

Cardiac resynchronization therapy (CRT) is based on the presence of disorders of electrical impulse propagation, frequently observed in patients with congestive heart failure (CHF), and related to the severity of the left ventricular (LV) systolic dysfunction.[1]In a general population of patients with CHF, the prevalence of QRS >120 ms on the surface electrocardiogram (ECG) is 20–25%, increasing to 50% in patients in New York Heart Association (NYHA) functional class IV.[2,3]These conduction disorders are the cause of atrioventricular, interventricular, and intraventricular mechanical dyssynchrony.

By correcting these electrical disorders and their mechanical consequences, CRT significantly improves cardiac function and clinical outcomes. Several clinical studies have demonstrated that this therapy alleviates symptoms, increases exercise tolerance, and improves quality of life in patients with advanced, drug-refractory CHF, a LV ejection fraction (EF) <35%, a dilated LV, and intraventricular conduction delays.[4–6] Reduction in the number and duration of hospitalizations and LV reverse remodeling have also been reported.[7,8]

All these benefits are durable. On the basis of these observations, BiV pacing has become a class IIA indication in the 2002 ACC/AHA/NASPE guidelines for patients suffering from dilated cardiomyopathy, with advanced, refractory CHF due to systolic dysfunction, and a wide QRS.[9]

Recent results from the COMPANION trial indicate that CRT combined with optimal drug therapy and an implantable cardioverter defibrillator (CRT-D) significantly decreased both the combined endpoints of all-cause mortality and hospitalization, and death and hospitalization related to CHF, compared with optimal drug therapy alone.[10] CRT and optimal drug therapy were also superior to drug therapy alone, though the difference did not reach statistical significance.

In most studies, CRT was delivered by pacing simultaneously the right and left ventricles. In most cases, the LV was paced with a lead inserted into a tributary vein of the coronary sinus over the free wall. However, experimental observations suggest that pacing limited to the LV, which usually increases electrical dyssynchrony, may significantly mitigate mechanical dyssynchrony.[11]

Furthermore, short-term haemodynamic studies performed in candidates for CRT showed similar or greater benefits with LV only pacing compared with BiV pacing.[12,13]

Long-term LV only pacing has been evaluated in small non-controlled studies, which demonstrated a functional improvement compared with no pacing.[14,15]

Aim of the work

Our study aims to investigate the efficacy and the safety of LV only pacing compared with the currently widely used Biventricular pacing configuration in patients with congestive heart failure and indication of cardiac resynchronization therapy.

Patients and Methods

Paired data will be collected on **20 patients** presented to **Ain Shams university hospital**s with congestive heart failure symptoms refractory to optimum medical treatment including ;unless contraindicated, Angiotensin converting enzyme inhibitor (ACEI) or Angiotensin receptor blocker (ARB), diuretics, Spironolactone antagonist and Beta blocker , sinus rhythm, and LBBB with QRS duration>120 ms. Patients will be randomized to an initial 8 weeks of either BiV or LV pacing, followed by 8 weeks of the other mode, in a blinded cross-over design, after writing an informed consent.

Patients will be assessed by:

1- Full history taking, with special emphasis about the type of cardiomyopathy, whether dilated or ischemic, symptoms of decompensated heart failure, history of acute coronary syndrome history of coronary angiography and intervention, number and frequency of hospital admission by decompensated heart failure manifestations and the type of antifailure medications and its efficacy in symptoms control .

2- Quality of life questionnaire.

3-Clinical examination:

- To identify NYHA functional class classification
- Full assessment of the patient general condition and co -morbidities.
- General examination to assess patient rhythm, signs of congestive heart failure.
- Careful cardiac examination to assess presence of mitral regurge and its degree.

4- 12 lead surface ECG.

5- 6 minute walk test.

6- Echocardiography:

- 2D echocardiography to assess global left ventricular systolic functions, segmental wall motion, internal dimensions and volumes. valvular affection.
- Color Doppler to assess degree of valvular regurge.
- Pulsed and continuous wave Doppler to assess flow velocity across valves.
- Tissue Doppler to assess diastolic function, mechanical dyssynchrony, and identify responders to resynchronization therapy.

Then the patient will be assessed after 8 weeks of switching to the other mode by clinical examination and complete evaluations, including echocardiographic examination, 6 min walk test, quality of life questionnaire, NYHA functional class classification, global assessment, and detailed CRT system interrogation.

Exclusion criteria:

1-Non responders to CRT by tissue Doppler criteria

2-Patients with atrial fibrillation.

3-Patients with narrow complex ECG.

Data management:

Data will be collected, verified, revised and then edited on the P.C. The data were then analyzed statistically using SPSS statistical package version 13.

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