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The rate dependent bundle branch block and mechanical dyssynchrony leads heart failure and beneficial effect of Cardiac Resynchronization Therapy

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Background: CRT (Cardiac Resynchronization Therapy) has been approved beneficially in heart failure patients with refractory optimized medical therapy on based of many studies. The guidelines have shown CRT is indicated in NYHA class III-IV, QRS >150 ms, LBBB (Left Bundle Branch Block) to improve heart functions, ventricular remodeling and clinical symptoms.

Purpose: Comparison of stress induced mechanical dyssynchrony between rate dependent LBBB and RBBB (Right Bundle Branch Block) and beneficial role of CRT to improve LV function and reduce mortality.

Method: Patients presenting dyspnea on exertion NYHA class I-II to III-IV by stress test, normal QRS to rate dependent LBBB or RBBB by Stress test or Dubutamine Stress Echo were studied. CRT on cardiac function was assessed by Cath study, Echo and MRI (Magnetic Resonance Imaging).

Result: 46 Patients, male/female ratio (1.87), 12 months observational study done on stress induced rate dependent LBBB and RBBB with worsening dyssynchrony and poor LV function were treated with CRT. Results have shown improved LV function in rate dependent LBBB patients (31+/-6 %) v/s RBBB patients (4.5+/-4%) with P value <0.04. and reduce mortality among rate dependent LBBB with CRT v/s without CRT (5% v/s 20 %) and another side mortality difference between rate dependent RBBB with CRT and without CRT were not found significantly.

Conclusion: Stress induced rate dependent LBBB with mechanical dyssynchrony leads to heart failure is benefited by CRT than Rate dependent RBBB.

Biography

Naresh Sen is a Consultant Cardiologist affiliated with Narayana Hrudayalaya Institute of Cardiac Science, India. He got his medical graduation from Rajasthan University, Jaipur and post-graduation in internal medicine from South America and post doctoral training in Cardiology from USA. He has also been elected for Fellowship award of various societies of Cardiology. He worked in Cardiology (Invasive & Non-Invasive) as Registrar or Consultant at renowned cardiac hospital ports of India like NH & Medanta last 5 years. He has special interest in coronary artery disease and heart failure prevention. He has published around 20 publications in Cardiology. For his hard work; he was awarded as best cardiology consultant in Rajasthan, 2013 by Director of AIIMS, New Delhi.

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