CONGESTIVE HEART FAILURE

Rapid Stepping Up of Carvedilol in Stable Congestive Heart Failure Patients

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Background

The utility of Beta-blockers in Congestive Heart Failure (CHF) patients is well established. Yet they are grossly underused drugs. Elther they are not prescribed at all or used in a very low dose. Also, here is no clear evidence based consensus regarding its dose titration or need of admission.

Methods

104 patients of CHF in New York Heart Association (NYHA) Class II or Ill were admitted with an informed consent for Carvedilol Tolerance Trial. Patients with resting heart rate less than 60 beats per min, of Systolic Blood Pressure less than 90 mmHg or with history of bronchospasm were excluded. The study was conducted with the aim of assessing the overall tolerance of Carvedilal by CHF patients and to see if a relatively rapid stepping up of its dose is safe and practical. Patients were submitted to a four hourly clinical examination and a 12 lead Electrocardiogram recorded prior to each dose of Carvedilol.

Protocol Used:

Day	Carvedilol Dose
I	3.125 mg BD
II	3.125 mg BD
III	6.25 mg BD
IV	Discharge on 6.25 mg BD

104 patients with age of 16 to 76 years with mean left Ventricular ejection Fraction of 23%, 48 (46.15%) patients of NYHA Class II, and 56 (53.84%) patients of NYHA Class II with history of Myocardial Infraction (47%) or Coronary Angiography proven Coronary Artery Disease were studied.

Results

First day dose of Carvedilol was tolerated by 84 (80.76%) patients. Second day dose of Carvedilol was tolerated by 74 (71.15%) patients. Third day dose of Carvedilol was tolerated by 64 (61.53%) patients. Out of 104, 40 (39%) patients did not tolerate carvedilol. The factors contributing to failure to complete the protocol were bradyarrythmias in 21 (20.15%) patients, worsening of CHF in 10 (9.61%) patients, Hypotension in 4 (3.84%) patients, and bronchospasm in 1 (0.96%) patient. During the protocol there was need of intranasal Oxygen supplementation or intravenous Frusemide in 7 (6.73%) patients and need to shift to Coronary care unit for 1 (0.96%) patient. There were no need of atropine or Temporary Pacemaker Implantation in any patients nor any death occurred during the study.

Conclusions

Carvedilol is well tolerated by majority of Class II-III CHF patients. Protocol suggesting a very slow stepping up of Carvedilol dose over many weeks or months need to be reevaluated. Sinus bradycardia or prolonging PR interval in a patient with baseline left bundle branch block are the main dose limiting factors in these patients. A short period of admission may make this task much easier, quicker and safer.

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