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Symposium II. Prevention in Hypertension

From Hypertension to Heart Failure: Role of Novel Beta Blocker

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Abstract

As one of the risk factors of cardiovascular diseases, particularly coronary heart disease and heart failure, hypertension yields high prevalence not only in developed countries but also developing countries. Heart failure as a clinical syndrome manifestation due to deterioration of systolic and diastolic ventricular function shows high incidence rate with 11.3 per 1000 population per year and 2-3% in prevalence.

Beta blocker is one of the most essentials in the hypertension and heart failure therapy. Beta blocker, in particular the selective one shown to reduce the cardiovascular outcome including cardiac and cerebrovascular diseases as recent studies reported. Hence, beta blocker is already established as first line treatment in guidelines of hypertension and heart failure. Nebivolol as the third generation beta blocker shows higher affinity and selectivity to the beta 1 receptor comparing to bisoprolol, metoprolol, and carvedilol. Vasodilatation via L-arginin/Nitric Oxide pathway in producing nitric oxide which gives vasodilatory effect on blood vessel also yielded by Nebivolol. A meta analysis shows that Nebivolol reducing blood pressure non-inferior to other beta blockers, calcium channel blockers and angiotensin converting enzyme inhibitor. A large study in geriatric heart failure patient, Nebivolol shows to reduce cardiovascular outcomes including mortality and hospitalization with strong evidence. Side effects of beta blocker including erectile dysfunction, lipid and metabolism disturbances shows no difference with placebo. Furthermore, Nebivolol is also considered safe in COPD patients

Keyword: Hypertension; Heart failure; Beta blocker; Nebivolol