Advances in management of heart failure with emphasis on angiotensin receptor nephrilysin inhibitor (ARNI)

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Heart failure (HF) is an increasingly common syndrome associated with high mortality and economic burden. A range of terms has been used to describe HF viz. chronic HF (CHF), acute HF (AHF), HF with reduced ejection fraction (HFrEF) and HF with preserved ejection fraction (HFpEF). Pathophysiology of HFrEF is complex. Landmark trials in patient with HFrEF include SOLVD-T, CIBIS-II, CHARM-Alternative and CHARM-Added, SHIFT, EMPHASISHF and PARADIGM-HF. Natriuretic peptides (NPs) are a group of hormones that have potent effects on sodium and fluid balance. Neprilysin is a zinc-dependent metallopeptidase that catalyses the degradation of various peptides. Inhibition of neprilysin increases bioavailability of NPs, bradykinin, and substance P, resulting in natriuretic, vasodilatory and anti-proliferative effects. LCZ696 is useful not only for the treatment of HF but also likely to be a useful antihypertensive drug. LCZ696 is a novel drug that comprises sacubitril (AHU377) and valsartan in a 1:1 molar ratio. It simultaneously inhibits neprilysin and blocks AT1 receptors. PARADIGM-HF is the first study to test the efficacy of LCZ696 on morbidity and mortality in patients with HFrEF. The trail was stopped early, according to pre-specified rules, after a median follow-up of 27 months, because the boundary for an overwhelming benefit with LCZ696 had been crossed. LCZ696 was associated with a significantly lower death from cardiovascular causes or first hospitalization (taken together-20% or separately 20-21%). Secondary endpoint viz. death from any cause, showed a 16% reduction (p<0.001). The superiority of LCZ696 over enalapril was not accompanied by important safety concerns. The LCZ696 group had a proportion of patients with non-serious angioedema, but not associated with an increase in serious angioedema.

Biography

Prashant Tarakant Upasani completed his DM (Cardiology) at All India Institute of Medical Sciences, New Delhi in May 1994. After completing his DM (Cardiology), he worked as Associate Consultant Cardiologist at Apollo Hospitals, Chennai and Indraprastha Apollo Hospitals, New Delhi. He is presently working at Metro Heart Institute, Noida as Senior Consultant Interventional Cardiologist. He is actively involved in all diagnostic and therapeutic interventional procedures. He was awarded Fellowship of College of Chest Physicians in the field of Pediatric Cardiology. In December 2012, he was conferred with Fellowship of Cardio-logical Society of India. He has 99 publications both in national and international journals including text books on cardiology. He has presented more than 80 papers in various national and international conferences. He is also the Coordinator of DNB Cardiology program at Metro Hospital, Noida.

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