Editorial

Optimizing Chronic Heart Failure Care Beyond Randomised Controlled Trials – What are the problem areas and potential solutions?

Congestive heart failure (CHF) is an epidemic which is growing in size. In the United States, more than 5 million people have clinical CHF, where the incidence is 20 per 1000 individuals between 65 to 69 years and >80 per 1000 among those over 85 years of age. The lifetime risk over 40 years of age is 20% with >650000 new cases yearly. The prevalence of asymptomatic HF approaches 21% with increasing age. CHF contributes to more than 1 million admissions annually where 1 in 4 will be readmitted in the first month. Half the total cost of >\$30 billion, or 2% of the health budget, are hospitalizations. Nearly half of those diagnosed will die within 5 years. Lower socioeconomic status and ethnicity are at greater risk of adverse outcomes. Quality of life is significantly affected. This is more so in >50% of patients who also suffer from one or more concomitant condition or comorbidity such as atherosclerotic diseases, atrial fibrillation, chronic renal impairment, diabetes, depression, dyslipidemia, hypertension, sleep apnea and valvular heart diseases, as the more common examples (1). Heart failure therapies are now well established and provide real benefits as presented in the numerous randomized controlled trials. However significant gaps still exist in the outcomes we observe when the population treated cannot meet the care standards of the trials or are demographically different.

In this thematic review, we are pleased to receive contributions from Australian and International co-authors who are experts in their respective areas. The overarching aim is focused on addressing several post-translational gaps in CHF practice. In the eleven subthemes, 3 broad areas are highlighted. These include: firstly, service related themes including the process of care that determines the true real-world outcomes of many therapies, CHF among patients not represented in the randomized controlled trials (RCT), and potential genetic variables; secondly, important comorbid conditions that alter therapeutic efficacy or directly impact of CHF pathophysiology; and finally novel measures to diagnose or manage CHF.

Generating evidence is merely the first step in a longer process of translating proven therapies to real world practice. Real-world practice includes measures to provide comprehensive care including, getting the right medications on the national and hospital formularies and delivered to needful patients with adequate supervision. Prescribing now has to consider a multitude of factors from side-effects, patient satisfaction and compliance, patient response in symptoms and quality of life, quantifiable physiological parameters, and most importantly life-expectancy. We also have to consider that the management inclusive of diet, medications and/or devices will be provided life-long and is a passenger in the patients journey through their life and the lives of their families. Factoring the needs and/or potential pathophysiological differences in some groups, such as the Australian Indigenous population is important if we are to understand and tailor strategies to close outcome gaps between groups. In this genetic considerations must also be taken into account.

Important factors that confound achieving best outcomes are comorbid conditions. Chronic renal impairment is the single most important contributor to poor cardiovascular outcomes, greater even than underlying ejection fraction. This cardiorenal connection has seen vigorous development in the last five years and an important subclass of cardiorenal syndrome is discussed. The metabolic syndrome is associated with other CHF risk factors. In particular diabetes mellitus independently or in combination is a risk factor for other CHF contributors, CHF development and progression. The current understanding in this area is explored. While many CHF trials have included older patients there are also additional factors that needed to be considered for this group.

Finally, we explore a novel areas in CHF, Cellular based therapies have looked at CHF from one dimension. It is important thinking and innovation explore roles for more complicated patients. In all this considerations we have to factor in what already

exists and what is in the pipeline. From this point it is essential we do the proven things well, support the developing strategies and contribute to innovation. This thematic review would hopefully provide a refresher for accepted facts and potential innovations in these areas.

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REFERENCES

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Pupalan Iyngkaran

Cardiologist Senior Lecturer Flinders University,
NT Medical School, Tiwi, NT 0811 Australia