New era in heart failure management: implementing cutting-edge therapies effectively

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Pharmacological therapy for heart failure (HF) has evolved significantly in recent years. Conventional disease-modifying medical therapy HF with reduced ejection fraction (HFrEF), beta-blockers (BB), angiotensin-converting enzyme inhibitors (ACEIs) or angiotensin receptor blockers (ARBs), and mineralocorticoid receptor antagonists (MRAs), was complemented by two novel drug classes including angiotensin receptor nephrilysin inhibitors (ARNIs) and sodium-glucose co-transporter-2 inhibitors (SGLT-2is) which further improve outcomes in patients with HFrEF considerably. Major heart failure clinical practice guidelines advocate for the early initiation and uptitration of ‘quadruple’ medical therapy in HFrEF. However, implementation gaps still exist. There is an unmet need for evidence-based implementation strategies to achieve optimal guideline-directed medical treatment (GDMT). Treatment approaches in subgroups of patients with HF under-represented in clinical trials remain of significant clinical importance. The identification of the barriers to GDMT implementation in the real world is required. The scope of the Topic Collection was to gather emerging data on best practices of GDMT implementation in the real world, embracing the diversity of HF and psychosocial health patients with HF and capturing the broad spectrum of endpoints and outcomes.

The Topic Collection opens up with a systematic review and meta-analysis from Susbsaicharoen et al entitled ‘Comparative cardiovascular outcomes of novel drugs as an addition to conventional triple therapy for heart failure with reduced ejection fraction (HFrEF): a network meta-analysis of randomized controlled trials’. The researchers compared the effects of different combinations of conventional HF therapies BB, MRA, ACEI/ARBs and novel agents, ARNI, SGLT-2is, soluble guanylate cyclase, omecamtiv mecarbil and ivabradine, on time to occurrence of the primary endpoint of cardiovascular death or HF hospitalisation to define an optimal combination. The authors showed the addition of SGLT-2is to a triple GDMT of ACEIs, BB and MRA, and ACEI replacement with ARNI was the most effective in prolonging the time to adverse outcomes and lowering the risk of outcomes compared with triple therapy. The finding expands pre-existing knowledge of the most significant beneficial effect of a combination of ARNI, BB, MRA and SGLT-2is in risk reduction of adverse outcomes previously demonstrated by Tromp et al, as well as findings showed the association of the combination above with additional live year gain of 1.73 and 2.87 years compared with triple and double treatment, respectively.

Another original study of the Topic Collection is from Nurzhanova et al entitled ‘Use of sacubitril/valsartan early after CABG’. The study investigated the safety of early sacubitril/valsartan administration in a subgroup of patients with HFrEF who underwent coronary artery bypass grafting (CABG). In pivotal clinical trials on ARNI in patients with HFrEF, a cardiac surgery performed 3 months before enrolment was an exclusion criterion. Therefore, this subgroup of patients is an under-represented cohort. The study increases the amount of evidence of safety ARNI use in those patients, demonstrating that early in-hospital ARNI initiation in patients who underwent CABG was associated with low rates of safety adverse events, including worsening renal function, hyperkalaemia, symptomatic hypotension, and angio-oedema. Currently, only one small single-arm observational study investigated ARNI safety in this patient’s cohort, similarly showing the similar safety profile of ARNI in patients with HFrEF after CABG.

A variety of barriers that impacted optimal HF therapy implementation in the real world are increasingly reported. These include...
medical community awareness of the safety and efficacy of GDMT, access to GDMT and the cost of therapy, socioeconomic factors, patient compliance and other factors. The following original study of the Topic Collection from Deek et al entitled ‘The Effect of Psychosocial Aspects on Medication Adherence in Patients with Heart Failure Amid Socioeconomic Challenges’ looked at the psychological health of patients with HFrEF. The study assessed the influence of depression, the level of stress and the quality of life on HF medication adherence in community-dwelling patients with HF, showing that impaired psychological health predicts poor adherence in these patients.

Finally, the Topic Collection includes the editorial from Carolyn Thomas, ‘Heart failure: it’s time to finally change the F-word’, which represents the patient’s voice and addresses the problem of patients’ perception of the term heart failure. It discussed how that may affect patients, causing fears, emotional distress and the overall quality of life. The editorial aims to draw the cardiology community’s attention to this issue and suggests considering several alternative names, including cardiac insufficiency, heart dysfunction or cardiomyopathy.

We sincerely hope our readers find the Topic Collection on Advances in Heart Failure Management: Focus on Implementation, Safety, and Efficacy Improving Implementation of Novel Guideline-Recommended Heart Failure Therapies exciting and clinically useful.

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REFERENCES

12. Thomas C. Heart failure: it’s time to finally change the F-word. Open Heart 2023;10:e002546.

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