



Cardiology and Therapy: A Summary of 2019 and Key Areas of Emerging Research in 2020

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Dear readers,

The 2019 calendar year has come to an end, and we now can look back and reflect on what has been a successful year for *Cardiology and Therapy*, as well as look forward to new developments in the field of cardiology in 2020.

We would like to start the year by saying thank you to all of our authors, readers, reviewers, Editorial and Advisory board members, and everyone who has contributed to *Cardiology and Therapy* over the past 12 months.

Thank you to all of our Editorial Board members who are responsible for assisting the in-house editorial process, contributing their

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own research, suggesting review topics, and generally providing overall support for the journal and its continued development. The journal is also delighted to welcome four new Editorial Board Members to the journal; Andreas Rillig, Sebastiano Lava, Axel Schlitt, and Tatjana Potpara. Thank you also to the members of our Advisory Board who are primarily responsible for providing peer-review comments. This support allows us to maintain our rapid publication timelines and publish research in the timely manner it deserves.

Our readership continues to grow, and in 2019 we saw over 200,000 downloads from SpringerLink and PubMed, a significant increase from previous years. A selection of the most highly read articles for the journal in 2019 include:

- Ballantyne, C.M., Manku, M.S., Bays, H.E. et al. Icosapent Ethyl Effects on Fatty Acid Profiles in Statin-Treated Patients With High Triglycerides: The Randomized, Placebo-controlled ANCHOR Study. *Cardiol Ther* (2019) 8: 79. Available at <https://link.springer.com/article/10.1007/s40119-019-0131-8> (1700 downloads, 14 shares and 5 citations since publication).
- McCullough, P.A. Treatment of Orthostatic Hypotension Due to Autonomic Dysfunction (Neurogenic Orthostatic Hypotension) in a Patient with Cardiovascular Disease and Parkinson's Disease. *Cardiol Ther* 8, 145–150 (2019). Available at <https://link.springer>.

[com/article/10.1007/s40119-018-0124-z](https://link.springer.com/article/10.1007/s40119-018-0124-z)

(1373 downloads and 2 citations since publication).

- May, H.T., Muhlestein, J.B., Ma, Y. et al. Effects of Evolocumab on the ApoA1 Remnant Ratio: A Pooled Analysis of Phase 3 Studies. *Cardiol Ther* (2019) 8: 91. Available at: <https://link.springer.com/article/10.1007/s40119-019-0133-6> (1200 downloads and 6 shares since publication).
- Koretsune, Y., Kusakawa, K., Harada, K.H. et al. Characteristics of Japanese Patients with Nonvalvular Atrial Fibrillation on Anti-coagulant Treatment: A Descriptive Analysis of J-dabigatran Surveillance and JAPAF Study. *Cardiol Ther* 8, 43–54 (2019). Available at <https://link.springer.com/article/10.1007/s40119-019-0129-2> (1196 downloads since publication).
- Winburn, I., Ishii, T., Sumikawa, T. et al. Estimating the Prevalence of Transthyretin Amyloid Cardiomyopathy in a Large In-Hospital Database in Japan. *Cardiol Ther* (2019) 8: 297. Available at <https://doi.org/10.1007/s40119-019-0142-5> (1300 downloads and 1 share since publication).

In 2019, accompanying every paper online is a summary slide enabling a broader readership to get a quick overview of the paper. *Cardiology and Therapy* also offers a range of enhanced digital features not limited to slide sets, videos, video abstracts, podcasts, infographics, and animations. We continue to encourage the addition of Plain Language summaries to articles and have published a number of articles in 2019 with a Plain Language Summary. Plain Language Summaries are published as part of the article, beneath the abstract, and their purpose is to assist non-experts (including non-specialists, patients, caregivers, and others) in understanding important medical advances. The overall aim is to achieve a greater impact of reported outcomes via increased understanding and wider audience reach. An example published in *Cardiology and Therapy* in 2019 can be seen here: <https://link.springer.com/article/10.1007/s40119-019-00145-7>.

The journal is also trying to encourage ‘patient voice’-type articles called ‘Patient

Physician Perspectives’, beneficial for both patients and treating physicians. How these articles usually work is that the patient would write a short piece describing their experience of living with their particular condition, whether that be day-to-day aspects, or response to treatment, or quality-of-life issues, anything that is important and relevant to them and that other patients and treating physicians might also be interested in. The physician would then write their response, so this could either be the patient’s own treating physician (which can work very well) or other treating physicians who would write their response based on their own experiences of managing the condition.

New for 2020: The journal is now able to publish roundtable discussions led by an expert panel of leading KOLs on a topic of clinical relevant for new, emerging, or established therapies. Roundtables are organized, moderated, and written up by Springer Healthcare as a supplement or article.

As we look to the year ahead, we hope to see reports around important developments within the cardiology field. The main topics of interest are listed by our Editor in Chiefs below.

We saw a number of exiting breakthroughs in cardiovascular medicine in the areas of medical treatments for heart failure, coronary artery disease, and hyperlipidemia. In the DAPA-HF trial [1], a paradigm shift occurred, as for the first time a therapy initially approved for treatment of diabetes was shown to improve cardiovascular outcomes in patients without diabetes. Dapagliflozin, an inhibitor of sodium-glucose cotransporter 2, when administered to patients with heart failure with reduced ejection fraction, significantly reduced cardiovascular death and worsening heart failure compared to placebo.

Two studies in patients with coronary artery disease with somewhat surprising results were the ISAR-REACT 5 trial [2], an open-label trial comparing prasugrel with ticagrelor in patients with an acute coronary syndrome, and the COLCOT trial [3]. In ISAR-REACT, prasugrel significantly reduced the composite of cardiovascular death, myocardial infarction, and stroke compared to ticagrelor (without increasing bleeding), which was counter to the

investigators' hypothesis. The anti-inflammatory agent colchicine dosed 0.5 mg/day reduced cardiovascular death and arterial ischemic events by 23% relative to placebo, with the greatest reductions occurring in stroke and urgent hospitalization for angina.

Two important trials in the management of hyperlipidemia led to new indications for use of two therapies already on the market. In the REDUCE-IT trial [4], patients with established or at high risk for cardiovascular disease with high triglycerides despite statin therapy who received a high-dose purified fish oil eicosapentaenoic acid (icosapent ethyl 2 g twice daily) had a 25% reduction in the primary cardiovascular composite of cardiovascular death, non-fatal MI, stroke, coronary revascularization or unstable angina, including reductions in each of the individual components. In the ODYSSEY OUTCOMES trial [5], PCSK9 inhibitor alirocumab therapy, when added to patients treated with high-intensity statins after a recent acute coronary syndrome, significantly reduced a cardiovascular composite, with favorable effects on mortality, and no adverse safety signal apart for local injection site reactions.

New data were also published for Bempedoic acid, an oral ATP citrate lyase inhibitor. In the CLEAR Wisdom trial [6], 779 patients receiving maximally tolerated statins and randomised (2:1) to bempedoic acid had a 15.1% reduction in LDLc at 12 weeks vs. a 2.4% increase in those receiving placebo ($p < 0.001$). Although not powered for outcomes, bempedoic acid was associated with a numerically lower incidence of CV death, MI or strokes at 1 year (2.7% vs 4.7%). In a further study of patients receiving maximally tolerated statins, adding bempedoic acid to ezetimibe was associated with a 36.2% reduction in LDLc at 12 weeks [7]. However, prospective clinical outcome data with bempedoic acid are awaited including the ongoing CLEAR outcomes trial. Looking forward to 2020, we can expect more advances in the medical management of these three conditions as major trials are due to be reported.

About 50% of all percutaneous coronary interventions and coronary artery bypass graft surgeries are performed in patients with chronic coronary artery disease. The just recently

presented ISCHEMIA trial will induce a new discussion about the appropriate patient selection for these procedures. The preliminary results of ISCHEMIA suggest that patients with more severe angina will have the greatest benefit from revascularization. We are eagerly awaiting the full publication of the trial and its implications on patient care with chronic coronary artery disease. Five-year data of 2 highly anticipated trials of PCI vs CABG for left main coronary disease provided contrasting results. In EXCEL [8], which studied low to intermediate left main complexity, the incidence of death, stroke, or MI (including periprocedural MI) was similar in the PCI and CABG cohorts (22.0% vs 19.2%; 95% CI, -0.9 to 6.5; $P = 0.13$). Conversely, in the NOBLE study [9], which studied all-comer left main complexity, the incidence of death, MI (excluding periprocedural MI), repeat revascularisation, and stroke was higher for PCI (28% vs 19%; $p = 0.0002$). However, neither study showed an excess of CV death with PCI.

The optimum antithrombotic strategy for patients with atrial fibrillation (AF) undergoing PCI received helpful clarity from the AUGUSTUS study [10] which randomised 4614 patients receiving a P2Y12 inhibitor to apixaban vs. vitamin K antagonist and to aspirin vs. placebo. The group receiving apixaban but without aspirin had the lowest incidence of bleeding yet no significant increase in ischaemic events. AUGUSTUS thus supports use of a non-VKA anticoagulant and early discontinuation of aspirin in such patients. Further study may help define just how early is optimum for aspirin discontinuation. Another hot topic is still the optimal treatment of patients with cardiogenic shock, especially the patient selection for mechanical support devices. Finally, the treatment of patients with heart failure with preserved ejection fraction is a field of great importance but with somewhat disappointing results in randomized clinical trials. Here we are searching for new strategies and therapies to improve outcomes of this growing patient population.

Cardiology and Therapy is looking forward to the year ahead.

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