

**JUNE 2022**

**Volume 18, Issue 3**

IN THIS ISSUE OF EUROINTERVENTION

**A mini focus on TAVI in bicuspid anatomies; transcatheter mitral valve implantation; bailout-transcatheter edge-to-edge repair or medical therapy; device-related thrombus following LAAO; cost-effectiveness of FFR-guided multivessel revascularisation in STEMI; first-in-man report on the NeVa device; near-infrared spectroscopy to predict plaque progression; and more...**

**Davide Capodanno**, *Editor-in-Chief*

What qualifies as the success of a journal?

Difficult to say, and even more difficult to measure.

The impact certainly has its own importance in our collective imagination. It's easy to quantify it based on the number of citations, which are an accepted surrogate – or at least a perceived one – for the authority of a particular publication. Obviously, when I read an article in another journal and see that it cites an article from EuroIntervention I am pleased that this occurred, as it means that someone, somewhere else, appreciates our work.

Now, there's another type of quote that doesn't contribute to the impact factor but, if possible, makes me even more pleased, and that's when one of the speakers at a medical conference mentions articles published in EuroIntervention on a slide. To

think that the Journal is consulted as a source of inspiration for a presentation, understanding from conversations I've had with peers that it constitutes the journal of reference in the field of interventions and the only journal on certain subjects for some of our most committed readers, is simply impressive. We would really like to give these readers even better images – graphics and central illustrations that they can use in their slides – to thank them for their commitment and confidence in our Journal.

We will continue talking about illustrations and figures another time because it's one of my goals as Editor and I can't say that I've reached that goal yet (but we are working on it, as they say in these cases, and you might have noticed some restyling of the central illustrations in our articles). Right now, in this issue of the Journal, though, I am sure you'll find many articles that could be candidates to become your next quote (in a paper, in a slide, or in a discussion with your colleague); let's see which ones.

We begin with a mini focus on transcatheter aortic valve implantation (TAVI) with an article by **Dao Zhou, Jian'an Wang and colleagues** on outcomes using TAVI to treat patients with bicuspid aortic valve (BAV) stenosis. As the indications for TAVI expand to younger patient groups, this is of increasing interest for patients with BAV, who are more likely to develop severe AS at a younger age. Looking at long-term data, the authors noted similar satisfactory three-year clinical outcomes between TAVI treatment for BAV or tricuspid aortic valve patients. Further studies should be encouraged on the use of TAVI in this population. This article is accompanied by an editorial by **Eric Van Belle**.

Also, are there differences between bicuspid and tricuspid anatomies in terms of coronary access after TAVI? This is the question posed in the next article in our mini focus by **Fei Chen, Mao Chen and colleagues**. Using computed tomography stimulation, the authors compared TAVI performed with a self-expanding transcatheter heart valve (THV) in bicuspid and tricuspid aortic valve stenosis. They determined that while both anatomies pose problems, the incidence of left coronary access interference caused by the sealed parts of the THV appeared lower in type 0 BAV patients. Certain specifications in the device architecture, such as lower skirts and larger open cells, or attention to commissural alignment, could be useful for ensuring post-TAVI access in either bicuspid or tricuspid anatomies.

In interventions for valvular disease and heart failure, authors **Sebastian Ludwig, Daniel Kalbacher and colleagues** report on outcomes of patients with severe mitral regurgitation who underwent transcatheter mitral valve implantation (TMVI) comparing them with other patients treated using either bailout-transcatheter edge-to-edge repair (bailout-TEER) or medical therapy. While the majority undergoing TMVI presented with secondary MR and impaired left ventricular ejection fraction, the technical success rates and predictable clinical results were acceptable. In patients who screen-failed for TMVI, bailout-TEER offers an alternative treatment, while the rates of adverse outcomes were highest among patients who remained on medical therapy.

Given its association with embolic events, device-related thrombus (DRT) following left atrial appendage occlusion (LAAO) is of particular concern and is the focus of the next article in the field of interventions for hypertension and stroke. Authors **Trevor J. Simard**,

**David R. Holmes Jr and colleagues** review what we know on the subject today before turning to the still-unresolved questions. These include the lack of a standardised imaging protocol that would allow for an optimal definition of DRT, further elucidating its incidence and risk factors and helping determine strategies to monitor and treat thrombus, finally obtaining a better understanding of clinical outcomes. To begin to respond to the gaps in our knowledge on DRT after LAAO, the authors call for the creation of dedicated registries as part of ongoing trials or smaller registries focused on these questions.

In coronary interventions, the FLOWER-MI trial found no significant clinical benefit in using fractional flow reserve (FFR)-guided percutaneous coronary intervention (PCI) when compared to angiography-guided PCI in patients with ST-segment elevation myocardial infarction (STEMI) and multivessel disease. Looking at the secondary endpoint of the trial concerning the cost-effectiveness and cost-utility of FFR-guided PCI, authors **Alicia Le Bras, Isabelle Durand-Zaleski and colleagues** concluded that it was also not cost-effective, but that the strategy could still hold some potential in other, still to be fully defined situations. This article is accompanied by an editorial by **Suzanne Baron**.

Also in coronary interventions, **Alessandro Spirito, Marco Valgimigli and colleagues** discuss a first-in-man technique for managing large thrombus burden in patients with acute coronary syndromes (ACS) using the NeVa, a novel mechanical thrombectomy device. The authors assessed the safety and efficacy of the procedure which is used in combination with aspiration through the guiding catheter or a guiding catheter extension and which has demonstrated high rates of vessel recanalisation and thrombus removal. A randomised study to further assess the comparative safety and effectiveness of this new treatment as an addition to standard interventions for STEMI patients with large thrombus burdens is underway.

The observation of positive near-infrared spectroscopy (NIRS) signals could have a clinical utility in being able to predict plaque progression in initially plaque-free artery walls. **Mariusz Tomaniak Joost Daemen and colleagues** studied NIRS-positive signals evaluating their use in identifying artery wall regions associated with an increase in wall thickness. Previously considered benign or as an imaging artefact, positive NIRS signals were seen to represent an early stage of coronary atherosclerosis and could be a predictor of early plaque development, even in non-culprit coronary arteries. This article is accompanied by an editorial by **Giulio Guagliumi and Dario Pellegrini**.

Radiation exposure remains an ongoing concern in interventional medicine with current devices and protocols still falling short of fully protecting personnel. **Avishag Laish-Farkash, Eli Israel Lev and colleagues** report on a novel device which shows a reduction, though not the elimination, of radiation exposure. The Radiation Shielding System was developed to integrate easily into a cath lab workflow while providing full-body protection from scattered radiation in the interventional suite by encapsulating the imaging beam and blocking the scattered radiation at its origin. This article offers results from bench testing to early clinical use, as the first steps toward acquiring more information and data on this promising device.

And now, on to the articles.