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An expert review on heavily calcified CTOs; recovery of absolute coronary blood flow after CTO recanalisation; stent failure and calcified nodules; optical flow ratio; bolus vs continuous thermodilution in ANOCA; the resorbable DREAMS 3G scaffold; permanent pacemaker implantation after cusp overlap vs three-cusp techniques; and more...

Davide Capodanno, *Editor-in-Chief*

It is the responsibility of the Editorial Board to ensure that the content we publish is informative and engaging for our readers. EuroIntervention is a journal that caters primarily to the interventional community, and we have always focused on publishing scientific studies that could potentially impact both the cath lab and clinical practice. However, this is easier said than done.

In reality, an editorial board has power over the selection of the articles that will appear in a journal, but it can hardly influence the type of articles that are submitted, even with clear and exhaustive instructions for the authors. In other words, it is the authors who decide whether to trust a journal and entrust it with the fruit of their work. Ideally, any editorial board would like reports of well-powered randomised clinical trials intended to change clinical practice to consider for publication, but these studies are almost invariably targeted by journals that have the highest impact factor.

The second-best option, for some journals, is to publish subanalyses of these studies, preferably prespecified and often confirmatory. There are conflicting opinions on the interest of readers in these subanalyses, and it would be interesting to know what

the majority think. For some, they don't add much to the main publication, especially if the results can already be seen from the classic subgroup analysis table. For others, these analyses are interesting, because they discuss surprising aspects of the trial or extend the results to significantly represented subpopulations. Most agree that positive subanalyses of negative trials must be treated with great caution.

Ultimately, at EuroIntervention there is no fixed rule for these articles, and decisions are taken on a case-by-case basis. We are convinced, however, and you may have already noticed, that we want to make a shift towards publishing articles that are not only informative but also interesting to our readers. We want to publish articles that will surprise them and make them curious to learn more – like those listed in the following paragraphs.

Let's begin with a debate: calcified nodules, whether they are eruptive or not, present significant challenges in revascularisation, but do they warrant different treatment and approaches in percutaneous coronary intervention (PCI)? **Giulio Guagliumi and Dario Pellegrini** suggest that optical coherence tomography can be unreliable in distinguishing the two morphologies and cause diagnostic overlap, thus treatment strategies for all nodules should rely on clinical presentation and the haemodynamic significance of the stenosis. **Gary S. Mintz and Akiko Maehara** offer a defence of the ability of optical coherence tomography to determine nodule morphologies and elaborate on the problems of stent implantation with eruptive calcified nodules.

In coronary interventions, **Kambis Mashayekhi, Carlo Di Mario and colleagues** at the European Chronic Total Occlusion Club provide an expert review on the interventional management of heavily calcified chronic total occlusions (CTO). They propose an evidence-based diagnostic method integrated with patient-tailored, percutaneous therapeutic strategies to help choose the best treatment option and optimise procedural results. After a discussion of calcification, contemporary scores and imaging modalities, they suggest a treatment algorithm based on crossing strategies and lesion preparation.

Continuing on the subject of chronic total occlusions, **Sarosh A. Khan, John R. Davies and colleagues** present their study: measuring the recovery of absolute coronary blood flow following successful CTO PCI and the role of patient selection and treatment strategies on outcome. They found a steady augmentation of absolute coronary blood flow post-CTO PCI as well as a reduction in microvascular resistance, leading them to conclude that patient characteristics and comorbidities contribute to a larger proportion of change in absolute flow than procedural aspects.

Next in coronary interventions, **Tomoyo Hamana, Hiromasa Otake and colleagues** search for the aetiology of stent failure in patients who underwent drug-eluting stent implantation for calcified nodules. In this retrospective, observational study, they identify a number of pre- and post-PCI prognostic risk factors independently related to target lesion revascularisation. As the prevalence of in-stent calcified nodules was higher in patients with target lesion revascularisation, they postulate that the regrowth of calcified nodules may be the cause of stent failure.

Optical flow ratio is a novel method for the rapid calculation of fractional flow reserve from optical coherence tomography images. **Fukang Hu, Shengxian Tu and colleagues** analyse the diagnostic accuracy of the optical flow ratio in an individual patient-level meta-analysis. Using wire-based fractional flow reserve as the reference standard with both vessel-level diagnostic concordance and numerical agreement in the overall population as endpoints, the authors find that optical flow ratio has the potential to improve the merging of functional and morphological assessments of coronary artery stenoses.

In the quest for a reproducible and accurate diagnostic metric for coronary microvascular dysfunction, **Emanuele Gallinoro, Bernard De Bruyne and colleagues** compare the reproducibility of bolus and continuous thermodilution in patients with angina and non-obstructive coronary artery disease. Randomised patients received either a bolus-first or continuous thermodilution-first assessment, and the variability of coronary flow reserve using continuous thermodilution was significantly lower than the variability measured with bolus thermodilution, indicating higher reproducibility. The outcome, the authors believe, is because continuous thermodilution is operator independent. **Frederik M. Zimmermann and Pim A.L. Tonino** offer an accompanying editorial in which they muse over which measurement might be the “true” coronary flow measurement.

To wrap up coronary interventions, we give you a translational research paper by **Masaru Seguchi, Michael Joner and colleagues** in which they evaluate the degradation kinetics of the sirolimus-eluting resorbable scaffold, DREAMS 3G, compared to its predecessor, the Magmaris. They describe both the qualitative and the temporal aspects of degradation after implantation in porcine coronary arteries, finding nearly complete degradation of the DREAMS 3G after one year, with an overall decreased discontinuity density compared to the Magmaris.

In interventions for valvular disease and heart failure, **Hendrik Wienemann, Matti Adam and colleagues** investigate the incidence of permanent pacemaker implantation and complication rates following the use of the cusp overlap technique compared to the standard three-cusp implantation technique with Evolut valves. In this large study, the incidence of permanent pacemaker implantation and paravalvular regurgitation were lower when using the cusp overlap technique, without an increase in the rate of significant major adverse cardiac events, compared with the three-cusp technique. This article is accompanied by an editorial by **Darren Mylotte, Simone Fezzi, and Angela McInerney**.

Finally, in a research correspondence, **Andrea Scotti, Azeem Latib and colleagues** report on the feasibility of temporary mechanical circulatory support with an intra-aortic balloon pump during transfemoral transcatheter aortic valve implantation. Their pilot experience finds that in a subset of patients with left ventricular dysfunction, low-flow state, and coronary artery disease, intra-aortic balloon pump-induced diastolic pressure augmentation might be particularly beneficial.

And now on to the articles themselves.