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IN THIS ISSUE OF EUROINTERVENTION

Dual lumen microcatheters for CTO recanalisation; the MATRIX score to predict radial crossover; bioresorbable scaffolds and DAPT duration; accuracy of OFR for predicting post-PCI fractional flow reserve; predicting microvascular obstruction after primary PCI; a biorestorative transcatheter heart valve; renal denervation in crossover patients; managing peri-device leakage after left atrial appendage occlusion, and more…

Davide Capodanno, *Editor-in-Chief*

When I realised that this was the December issue I got the chills, because it means that two years have already passed since I took over the direction of this Journal.

What impresses me most is just how easily the time has flown by and in such a carefree way – there has never been a moment when I felt the burden of what I was doing. It really is true that time flies when you enjoy what you are doing, and I owe this to the incomparable effort of the Editorial Office and the Production Team who carry out the "heavy" part of the work. They are the ones who help me maintain

that necessary lightness so valuable in allowing me, along with the Deputy Editors and Editorial Board, to think about how to improve EuroIntervention each day.

During the first year I led the Journal we rethought the contents of the publication. It is certainly true that you can think of a journal as simply a collection of articles accepted in random order, and in a sense I understand this perspective. Instead, we like to think that all the issues of the Journal have their own identity and transversality, and that the types of articles accepted have changed over time to suit not only your taste, but ours as well. We are all in search of a solid result, without neglecting the practical soul that is the trademark of EuroIntervention, but perhaps with a more academic vocation than in the past.

In this second year we have tried to make this ambition even more apparent, working on the perception of the Journal as the top tier product which it is, and we do so within the pages of the Journal itself and on social networks (where you may have noticed that the tone of our communication has changed).

We still have several more challenges ahead, including graphics. The next issue will be the 200th since the birth of EuroIntervention and we are thinking of special ways to celebrate this anniversary. However, I won't reveal them now, so that they remain a surprise. In the meantime, here's what we've selected for you in this issue.

We begin with a EuroCTO Club expert panel report on dual lumen microcatheters. Authors **Stylianos A. Pyxaras, Kambis Mashayekhi and colleagues** offer a consensus on the current use of these devices which have proven extremely useful in the percutaneous treatment of chronic total occlusions (CTO). The consensus provides a guide to where dual lumen microcatheters would be the best choice – such as in proximal and distal cap crossing – and the techniques involved in their deployment. The consensus also discusses the potential these devices have for the future treatment of CTOs.

While we know radial vascular access is recommended for the invasive treatment of patients with acute coronary syndromes (ACS), crossover to femoral access is sometimes required and results in worsening outcomes. Based on data from the MATRIX trial, authors **Felice Gragnano, Marco Valgimigli and colleagues** developed the MATRIX score. This score, which was externally validated with data from other trials, has the potential to identify those patients at increased risk for crossover. Using a series of easily available items from clinical practice such as age, height, smoking status and renal failure, the MATRIX score could be used to alert the operator before an intervention of the possibility that a crossover might be necessary and thus aid in planning that could improve outcomes. This article is accompanied by an editorial by **Michel Le May and George Wells**.

Would prolonging dual antiplatelet therapy (DAPT) following bioresorbable scaffold (BRS) implantation decrease the risk of ischaemic events? **Lorenzo Azzalini, Gregg W. Stone and colleagues** answer this question using a patient data pooled analysis derived from five ABSORB studies. They observed that while DAPT was associated with lower risks during the first year, after this first year and up to three years, the use of DAPT had no significant impact. This article is accompanied by an editorial by **Ron Waksman and Sukhdeep Bhogal**.

In another article, authors **Daixin Ding, Shengxian Tu and colleagues** look at the accuracy of optical coherence tomography (OCT)-based optical flow ratio (OFR) in predicting post-PCI fractional flow reserve (FFR). They find the technique has a good diagnostic

equivalence to wire-based FFR and consider further the impact of stent expansion on in-stent pressure drop. They conclude that simulated residual OFR and post-PCI OFR could be of interest in designing procedural strategies. This article is accompanied by an editorial by **Juan Luis Gutiérrez-Chico**.

Adequate reperfusion at a microvascular level does not always occur after primary percutaneous coronary intervention (PPCI) for ST-elevation myocardial infarction (STEMI). To understand and predict this phenomenon, **Kosei Terada, Takashi Akasaka and colleagues** employed near-infrared spectroscopy combined with intravascular ultrasound (NIRS-IVUS). They used this technique to identify lipid-rich coronary plaque in infarct-related coronary lesions and studied its relation to microvascular obstruction (MVO) detected by cardiac magnetic resonance imaging. Using NIRS-IVUS, results showed that infarct-related lesions were significantly larger in patients with microvascular obstruction, an observation which led the authors to conclude that NIRS-IVUS could be useful in the risk stratification of STEMI patients undergoing PPCI.

Turning to a preclinical study in valvular disease and heart failure, **Patrick W. Serruys, Osama Soliman and colleagues** report on the ongoing tests involving the feasibility of a cutting-edge biorestorative transcatheter heart valve. Here the authors looked at different valve designs of the Xeltis device in relation to performance and reliability, implanting various versions in sheep to assess haemodynamic performance over 12 months. The research will now move to the next phase of development including stent frame optimisation, in what could prove to be a truly innovative clinical tool.

In the treatment of hypertension using renal denervation, authors **Felix Mahfoud, Ajay J. Kirtane and colleagues** studied patients with uncontrolled hypertension who were originally assigned to the sham group of the sham-controlled RADIANCE-HTN SOLO trial. After the trial's primary endpoint was met, these patients were allowed to crossover to ultrasound renal denervation and then followed for 23 months. The results showed significant reductions in blood pressure with no change in antihypertensive medications, providing further support to the efficacy and safety of renal denervation. The article is accompanied by an editorial by **David E. Kandzari**.

While there are several approaches in the management of residual peri-device leakage after left atrial appendage occlusion, little has been written about them. In their article, **Kerstin Piayda, Horst Sievert and colleagues** report on the first registry exploring percutaneous peri-device leakage closure. The registry comprises different leak morphologies, size and closure techniques. The authors note that these techniques are seen to significantly reduce leak size with low procedural complication rates.

We have two additional items of interest in this issue. The first is a general "viewpoint" by **Rasha K. Al-Lamee, Alexandra N. Nowbar and colleagues** where the authors discuss the need to create a patient-centred approach to placebo-controlled trials of interventional procedures as a pathway to ensuring recruitment. The second, is a "research correspondence" submitted by **Sarah K. Gualano, Brahmajee K. Nallamothu and colleagues**. The authors warn us to remain diligent, thoughtful and reasoned in our use of Twitter as we discuss and interact, especially when discussing procedural outcomes. While specifically addressing an occurrence in valvular disease and heart failure, their comments could easily be applied to interventional medicine in general.

And now, it's time for the articles to speak for themselves.