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IN THIS ISSUE OF EUROINTERVENTION

EAPCI consensus document on myocardial revascularisation failure; antegrade versus retrograde approach from the PROGRESS-CTO Registry; a mini focus on BRS with lessons from the AIDA, ABSORB II and MAGSTEMI trials; LAA closure occluders, new embolic protection devices and more...

Davide Capodanno, *Editor-in-Chief*

Recently, I was a guest at the Congress of the European Association for Cardio-Thoracic Surgery (EACTS). In my role as Editor of this Journal, I had the privilege of moderating a session of scientific presentations with the new Editor of the European Journal of Cardio-Thoracic Surgery, Prof. Matthias Siepe, to whom I wish all the best for his term. I look forward to numerous opportunities for collaboration.

For an interventional cardiologist, participating in a scientific session of cardiac surgery is certainly an interesting and enriching opportunity. Even when data from studies at the intersection of our disciplines were discussed – studies that I thought I already knew well – their point of view is complementary and therefore useful in challenging one's own preconceptions.

It is an exercise that all members of the Heart Team should do, emerging from our closed shells, mixing, and coming together with other specialists in patient-centred sessions. Another excellent example of this was during the last PCR Valves e-Course.

On a separate note, I noticed that in social media even the most heated controversies about interpretations of the literature data become very non-controversial and constructive when it comes to discussing single clinical cases and the best interests of individual patients.

This year the EACTS conference was held virtually, with an ability to innovate that must really be acknowledged and which can serve as an example for future events of this type. First, this was due to the use of a special virtual platform that reminded us of certain role-playing video games in “subjective immersion”. Employing customisable digital replicas of the participants (avatars) free to move in a 3D virtual environment, it provided an experience very similar to how the conference venue would have seemed in reality.

Difficult to explain, perhaps, but easy and enjoyable to use. Inside the convention centre, in a virtual Barcelona, with the Sagrada Familia in the background, users could identify themselves and chat. This was an appreciable attempt to reproduce digitally one of the things we missed in this ocean of congresses on our computer screens – the opportunity for random networking. For the rest, the sessions were carried out as always, with pre-recorded interventions in order to avoid technical risks, but with the excellent addition of live connections between moderators and speakers for quick question and answer sessions that added a touch of contemporaneity and unexpectedness. At the end of each conference day, an hour of insights was presented with a TV host, invited guests and top influencers, using the language and rapid television-style editing that I found successful and in keeping with the times.

At the end of this problematic year 2020, I take home from the PCR e-Courses, ESC and now EACTS, the idea that, even in the difficult circumstances our classic face-to-face conferences have experienced, one must have the courage to experiment and take risks, reinventing the language of scientific gatherings without relying on previous models. This is also what we try to do in these pages, without giving up the contents that have made this Journal what it is. So, steeling myself in the belief that we must take risks to innovate, let's move on to the traditional presentation of this month's contents.

We begin with coronary interventions and the EAPCI consensus document on the management of myocardial revascularisation failure by **Giulio G. Stefanini, Andreas Baumbach and colleagues**, accompanied by an editorial by **Glenn Levine**. Examining a wide range of clinical and angiographic evidence, this consensus document identifies underlying mechanisms involved in myocardial revascularisation failure, such as the failure of PCI or CABG or the generalised progress of CAD, with the goal of providing a more effective and patient-oriented approach to its management.

Turning to chronic total occlusion (CTO) PCIs, authors **Peter Tajti, Emmanouil S. Brilakis and colleagues** dissect the large PROGRESS-CTO Registry which compared the technical and procedural outcomes of the retrograde and antegrade approaches. While the retrograde technique does show improvements in the overall success rates, they note a tendency to higher rates of in-hospital major complications compared to antegrade-only PCI patients, possibly due to more complex lesions treated with this approach. **Gerald S. Werner**, in his accompanying editorial, finds this article adds “valuable information on the challenges associated with this more complex and demanding strategy”.

Continuing with coronary interventions, **Chun Chin Chang, Patrick W. Serruys and colleagues** look at the three-year results of the PIONEER trial studying the BuMA Supreme, a sirolimus-eluting biodegradable stent. The trial randomised patients to the BuMA Supreme or the Resolute stent, seeing similar results of efficacy and safety between the two stents and with a primary endpoint of non-inferiority in terms of the nine-month angiographic in-stent late lumen loss.

In this issue, our mini focus looks at bioresorbable scaffolds (BRS), beginning with a sub-analysis of the AIDA trial which compared the Absorb BRS to the XIENCE in

routine clinical practice, specifically studying the impact of the complexity of coronary disease as stratified by the SYNTAX score. This paper gives further insights on the reason for failure of first-generation BRS. Written by **Robin P. Kraak, Joanna J. Wykrzykowska and colleagues**, this sub-analysis observed that, when Absorb was used in patients with more complex coronary disease, it was associated with an abrupt rather than gradual increase in rates of myocardial infarction and revascularisation. Absorb implantation in the higher SYNTAX scores was associated with markedly increased risk of device thrombosis, revascularisation and myocardial infarction, leading the authors to suggest that BRS use, if any, should be limited to patients with less extensive CAD.

Comparing magnesium-based BRS (MgBRS) with a sirolimus-eluting stent (SES), **Josep Gomez-Lara, Manel Sabaté and colleagues** present the MAGSTEMI trial. With an editorial by **Nieves Gonzalo and Angela McInerney**, this trial demonstrated larger angiographic lumen loss and restenosis with MgBRS than SES. The reasons for this finding are examined, including the issue of scaffold collapse, with the possibility that future iterations of these scaffolds should prolong radial force.

Next, **Philipp Nicol, Michael Joner and colleagues** ask whether implantation of a BRS, by improving vascular restoration, reduces the incidence of neoatherosclerosis. This pre-clinical investigation compares BRS with DES in neoatherosclerotic rabbit iliac arteries with animals also randomised to receive high-dose statin treatment or placebo. The results suggest reduced neoatherosclerosis formation in MgBRS relative to thick-strut DES, as well as a favourable synergistic effect of systemic statin treatment.

Imane Tarrahi, Frank J.H. Gijssen and colleagues look at BRS design in relation to their haemodynamic features studying four scaffolds, Fantom Encore, Fantom, Magmaris and Absorb. Knowing that low and oscillating wall shear stress in coronary arteries can lead to neointimal growth of vascular tissue, they consider the influence stent and scaffold design can have on these stress patterns and quantify which scaffold features are most important to reduce long-term restenosis.

We end our mini focus on BRS with **Yoshinobu Onuma, Patrick W. Serruys and colleagues** presenting the five-year clinical outcomes from the ABSORB II trial. While an absence of scaffold/stent thrombosis from four years to five years and very low additional events beyond three years were observed, it is clear, based on the totality of the evidence, that more work needs to be done to improve current iterations of BRS in order to justify their clinical use.

Turning to interventions for hypertension and stroke, **Jakob Ledwoch, Horst Sievert and colleagues** compare the new generation of left atrial appendage closure systems. Based on a multicentre observational study involving 38 centres, the authors conclude that the WATCHMAN, AMPLATZER and the new-generation Amulet occluders provide similar results in terms of technical success, procedural safety and long-term effectiveness. This article is accompanied by an editorial by **Jacqueline Saw and Taku Inohara**.

Finally, we look at peripheral interventions with 12-month outcomes from the PARADIGM study. With carotid artery stenting using conventional carotid stents showing a high percentage of adverse neurologic events occurring post-procedurally within the first 30 days rather than intraprocedurally, **Adam Mazurek, Piotr Musialek and colleagues** discuss the use of embolic protection devices, specifically the effectiveness of the MicroNET-covered carotid stent.

That's it for this month. So, without further ado, let's delve into this issue of EuroIntervention.