

**AUGUST 2020****Volume 16, Issue 5**

IN THIS ISSUE OF EUROINTERVENTION

## **Plaque characteristics, high bleeding risk, a new transcatheter valve, disproportionate functional mitral regurgitation, interventions for heart failure, and more**

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I don't know if it's the right time to draw up a first assessment of these months of digital conferences. However, this month's issue coincides with the launching of ESC Digital, the most ambitious virtual event of all. So, it makes sense to stop for a second and reflect on the different ways of recording and broadcasting the sessions adopted by the largest international scientific societies so far. In the beginning, it was the ACC. If I think of that event after some months, I still cannot believe how clever they were to set up in less than no time a well-functioning platform, with a credible schedule, making the most of the numerous late-breaking trials already accepted for "in person" presentation. Recording the presentations and comments was a good idea to avoid unexpected technical issues, and the result was pleasing. Clearly, when you start a new adventure, the pressure on who comes next is greater. On the one hand you can count on the experience gained by the pioneers, on the other the expectations are high. TVT Connect has chosen the path of the webinar spread over a number of days, trying to intercept a habitual audience that could take advantage of premium content without any expense. Thinking about it, this was also a good idea. Then it was the turn of the PCR e-Course, of which we are obviously very proud, which introduced elements of live streaming and content on demand. This too was a remarkable improvement, especially considering the high number of accesses. Undoubtedly, recording all those sessions in about two months has put a strain on all the faculty

members, not to mention the technical teams. However, the desire of the participants to do a good job was evident in every single session, contributing to the final success of the event. The faculty had to tap into resources that perhaps they didn't even imagine they had. A performance in the Palais des Congrès in Paris has something theatrical about it, while the re-invention of the congress in digital format suddenly took on a television language. In the meantime, even our Asian colleagues (and it could not be otherwise given their extraordinary technological level) got back on track. The CIT Online and TCTAP Virtual recordings took place as real "on site" sessions, with the small difference of being thousands of kilometres away, but with the spirit of the panel possibly even more cohesive and focused on the contents. So, from an educational point of view we have learned many things over these months. Although we miss traditional events, there is undoubtedly some good in what we have witnessed during this time. The challenge of tomorrow will be to integrate the two access methods to increase the ability of the content to achieve its objectives. Journals such as EuroIntervention will have to be careful to assimilate this change, being ready to change in turn. Waiting to see what the ESC will be able to offer us with its extraordinary organisational machine, let's move on to the usual review of the contents of this month's Journal.

In the section on coronary interventions, this issue hosts a minifocus on coronary plaque characteristics, with several studies that expand this area of research meaningfully. In the first study, **Francesco Prati, Eloisa Arbustini and colleagues** report the results of a *post hoc* analysis of the large CLIMA registry addressing the relationship between calcified nodules with or without disruption and 12-month occurrence of target lesion myocardial infarction and/or cardiac death. Interestingly, the presence of calcified nodules was significantly more common in those patients who experienced hard clinical adverse events and was confirmed as an independent predictor of events after correction for the baseline clinical differences. This study is nicely accompanied by an Editorial from **Takashi Akasaka and Takashi Kubo**. Another study by **Hiroyuki Jinnouchi, Alope V. Finn and colleagues** explored the accuracy of OFDI/OCT for detecting cholesterol crystals and their pathophysiological significance. The strength of this paper is the co-registration of a total of 559 cross-sectional autoptic OFDI/OCT images with histology. An editorial by **Tom Johnson and Nikhil Joshi** elucidates further the importance of these observations. A study by **Shigeo Godo, Amir Lerman and colleagues** tested the hypothesis that coronary microvascular endothelial dysfunction is associated with vulnerable plaque characteristics of epicardial atherosclerotic coronary artery disease. The authors performed a cross-sectional analysis of a comprehensive invasive assessment of coronary physiology including endothelium-dependent coronary microvascular function and virtual histology intravascular ultrasound in patients with chest pain and angiographically normal coronary arteries or early non-obstructive coronary artery disease. Based on their findings, the authors

propose that detecting and targeting coronary microvascular endothelial dysfunction may offer a novel therapeutic strategy to prevent the progression of coronary artery disease. Closing this focused series, **Hyun-Seok Min, Seung-Jung Park and colleagues** developed a deep learning algorithm to classify OCT frames with or without OCT-derived thin-cap fibroatheroma, demonstrating high reproducibility. Pending further validation, this data-driven and time-saving computerised process may assist clinicians in easily recognising high-risk coronary lesions and making decisions in the catheterisation laboratory. Do we have space for a final article on more general issues surrounding coronary interventions? Of course we do. **Yasushi Ueki, Lorenz Räber and colleagues** aimed to validate the so-called ARC-HBR criteria of high bleeding risk in 12,121 patients undergoing PCI. Thanks to the recent availability of standardised definitions by the Academic Research Consortium, “high bleeding risk” now represents a sizeable proportion of patients who are commonly encountered in clinical practice. We asked **Róisín Collieran and Philip Urban** to write an accompanying editorial, reflecting on recent developments in the field.

Let's see now what is new in the section on interventions for valvular heart disease and heart failure. We start with the report of the first-in-human MyVal-1 study by **Samin K. Sharma, Ashok Seth and colleagues**, in which 30 patients with severe aortic stenosis at intermediate or high risk for surgery treated with the novel Myval balloon-expandable transcatheter valve were enrolled. The Myval valve is a new contender in the increasingly busy field of transcatheter heart valves; waiting for larger studies, clinical and functional outcomes for this initial cohort are reported by the authors at up to 12 months. We then move to a study from **Marianna Adamo, Marco Metra and colleagues**, who investigated the impact of echocardiographic parameters, including detection of disproportionate secondary mitral regurgitation, in MitraClip recipients. The concept of disproportionate secondary mitral regurgitation is gaining momentum, as it seems to represent the mechanistic explanation for the different results of studies such as MITRA-FR and COAPT. We asked **Paul Grayburn and Anna Sannino**, a key theorist of this concept, to write the accompanying editorial. Then we propose the reading of an interesting preclinical research study on an intervention for heart failure, by **Pichoy Danial, Jean-Baptiste Michel and colleagues**. An interatrial communication was created in rats with heart failure with preserved ejection fraction. The model showed improvement in pulmonary haemodynamics but also preliminary evidence of the potential risk of right volume overload and pulmonary hypertension due to atrial shunting. This study contributes to a better understanding of the merits and caveats of the interatrial shunting approach for heart failure.

That's it for this August issue of EuroIntervention. As always, please do not hesitate to let us know your opinions, suggestions and reactions, on the website or through social media, to what you read here.