

## Flying through the coronary easily

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Optical coherence tomography (OCT) has been waived as a breakthrough in coronary imaging. With its superb resolution in the range of 10–20  $\mu\text{m}$ , OCT has proven to be a valuable technique in guiding coronary interventions [1–3]. Apart from this, among other intracoronary technical solutions, OCT certainly has the greatest potential in studying atherosclerosis in vivo, and identifying subjects with vulnerable lesions which leave patients prone to developing hard coronary events.

Among the steps that enabled OCT to gain such credibility, the adoption of the non-occlusive techniques to acquire images has certainly played an instrumental role [4, 5]. Subsequently, the development of frequency domain technology, capable of acquiring long segments in a few seconds, and because of this high speed, it has made OCT a simple, user-friendly technique.

However, even in skilled hands, OCT acquisition may be suboptimal, and the need for an increased amount of contrast remains a reason for concern. For this reason, the paper by Gutiérrez-Chico et al. [6] published in this number of “Cardiology Journal” is timely, and of great interest. Authors developed an interesting concept, showing that the application of a simple formula, taking into account the pullback speed of OCT and the length of segment of interest, can reduce the amount of contrast and improve image quality. The latter remains a problem particularly for accurate plaque characterization, where features of vulnerability such as measurements of fibrous cap thickness or identification of macrophage requires a resolution slightly higher than cellular. On the other hand, renal insufficiency is one of



the most troublesome complications after coronary interventions. The fact that OCT requires additional contrast use, certainly acts as an obstacle to its widespread utilization. Although in the present high volume OCT center it is applied as an established methodology for OCT acquisition, requires the same contrast volume, regardless of patient characteristics, and of the coronary segment to be visualized. It is felt herein, that a personalized adoption of OCT acquisitions should be implemented. Having said this, it does follow the concept of personalized medicine which has been popularized over the last few years, where every patient requires dedicated treatment.

Professor Juan Luis Gutiérrez-Chico and co-authors should be congratulated for what they have done. There is now a further step to be done. To better understand the clinical impact and ease of use in this innovative solution in acquiring OCT images, there is now need to test it in other centres exactly as it was done over 10 years ago for the non-occlusive technique.

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