

## OCT section

Hiram Grando Bezerra · Marco A. Costa

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In this issue of the “International Journal of Cardiovascular Imaging”, we were fortunate to organize a section containing four papers on OCT. We invited some of the world’s most experienced OCT researchers and clinical users with a broad spectrum of expertise and research interests.

In the first article, “*Intracoronary optical coherence tomography, basic theory and imaging acquisition techniques*”, Prati F. et al. provide the essential physics principles of intravascular OCT, the background needed to better understand this optical-based method, and the practical aspects of image acquisition. The paper covers the initial generation of Time Domain—OCT, but focuses mostly on the more recent Fourier Domain—OCT, since this will naturally become the most prevalent technique.

Our group describes the details of the methodology for stent assessment by OCT, putting in perspective clinical versus research interests: “*Assessment of coronary stent by OCT, methodology and definitions*”. Practical aspects of online analysis of stents are discussed, and offline analysis for research purposes is described in detail.

The third article in the OCT section, “*Optical coherence tomography endpoints in stent clinical investigations: strut coverage*”, is a comprehensive review of clinical trials that used OCT as the primary

imaging modality for coronary stent evaluations. Special emphasis is attributed to strut coverage assessment, since this variable is being considered as the primary endpoint in most of these trials.

In the final article in this section, Kubo et al. describe the potential of OCT for plaque and thrombus evaluation: “*Plaque and thrombus evaluation by OCT*”. In this article, the reader will have the opportunity to read from authors with the most significant contributions towards validation of plaque classification by OCT and clinical assessment of vulnerable plaque and thrombotic lesions. At the end of the article, there will be a glimpse into the future with advanced post-processing imaging for fully-automated calcium volumetric quantification by OCT.

We believe that the selection of topics in this section well-illustrate the potential of intravascular OCT as a true translational imaging modality that will facilitate our understanding of vascular biology and critical aspects of stent healing processes. The robustness of the method for clinical usage relies on higher reproducibility and ease of use and interpretation as compared to previous intravascular imaging modalities. Yes, intravascular OCT is ready for prime time.

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H. G. Bezerra (✉) · M. A. Costa  
Cleveland, OH, USA  
e-mail: hiram.bezerra@UHhospitals.org