

3D Imaging Technologies in Atherosclerosis

Rikin Trivedi • Luca Saba • Jasjit S. Suri
Editors

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 Springer

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Rikin Trivedi
Department of Neurosurgery
Addenbrookes Hospital
Cambridge, UK

Luca Saba
University of Cagliari
Cagliari, Italy

Jasjit S. Suri
AtheroPoint LLC
Roseville, CA, USA

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Preface

Nowadays atherosclerosis represents the leading cause of mortality and morbidity in the world. Two of the most common, severe, diseases that may occur, Acute Myocardial Infarction and Stroke, have their pathogenesis in the atherosclerosis that may affect the coronary arteries as well as the carotid\intra-cranial vessels.

Therefore, in the past there was extensive research in identifying pre-clinical atherosclerotic diseases in order to plan the correct therapeutical approach before the pathological events occur.

In the last 20 years imaging techniques and in particular Computed Tomography and Magnetic Resonance had a tremendous improvement in their potentialities. In the field of the Computed Tomography, the introduction of the multi-detector-row technology and more recently the use of dual energy and multi-spectral imaging allow reaching an exquisite level of anatomic detail. The MR thanks to the use of strength magnetic field and extremely advanced sequences can image very fast the human vessels by offering an outstanding contrast resolution.

In this book our purpose is to offer a synthetic but complete window into the state of the art of the CT\MR imaging application for the study of arteriosclerosis by the means of the most renowned scientist in this field.

Cambridge, UK
Cagliari, Italy
Roseville, CA, USA

Rikin Trivedi
Luca Saba
Jasjit S. Suri

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