Preface

# Achieving better modulation of coronary atherosclerosis: its understanding, visualization and treatment

This special issue of *Cardiovascular Diagnosis and Therapy* focuses on the characteristics, natural history and prevention of coronary atherosclerosis. Atherosclerotic coronary artery disease (CAD) is still increasing in the world despite the use of anti-atherosclerotic medical therapies. Due to global epidemic of obesity and diabetes, the prevalence of CAD will further rise by 2020. These observations suggest the need for effective approaches to prevent and treat CAD.

To establish better strategy to prevent CAD, elucidation of atherosclerotic mechanisms as well as development of evaluable modalities are required. In the current special issue, Otsuka *et al.* provide accumulating pathological evidences with regard to a variety of plaque phenotypes and distinct features of plaques associated with acute coronary events. Non-invasive and invasive modalities to visualize atherosclerotic plaques are introduced by Shishikura *et al.* and Honda *et al*., respectively.

Imaging modalities have contributed to the elucidation of natural history of coronary atherosclerosis and the identification of high-risk lesions. Munnur *et al.* show and compare atheroma burden and its progression in various subjects based on findings from non-invasive and invasive modalities. Wayangankar *et al.* give an overview of vulnerable plaques causing acute coronary syndrome or cardiac-cause sudden death. Medical therapies to prevent plaque progression and stabilize high-risk lesions are also presented by Andrews *et al.* and Wayangankar *et al*., respectively.

Lastly, the ability of imaging modalities to predict future risks for cardiovascular events is presented by Negishi *et al.* Schere *et al.* introduces molecular imaging technique as a novel modality which enables to monitor functional property of plaques. This technology is expected to further improve the ability of imaging tools for achieving better risk stratification of cardiovascular events.

These articles provide a rich variety of learning of coronary atherosclerosis. We hope this special issue will interest readers and contribute to further improvement of cardiovascular outcomes in patients with coronary atherosclerosis.

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