MedicalXpress

First consensus paper on atrial cardiomyopathies set to be published

June 10 2016

The first consensus paper on atrial cardiomyopathies is set to be published simultaneously in EP-Europace, HeartRhythm, and the *Journal of Arrhythmia*. The key contents are launched today at CARDIOSTIM - EHRA EUROPACE 2016.

The report was written by a working group of the European Heart Rhythm Association (EHRA) which is a registered branch of the European Society of Cardiology (ESC), the Heart Rhythm Society (HRS), the Asia Pacific Heart Rhythm Society (APHRS), and Sociedad Latinoamericana de Estimulacion Cardiaca y Electrofisiologia (SOLAECE).

Professor Andreas Goette, chair of the working group, said: "Atrial cardiomyopathies contribute to the development of atrial fibrillation, which is the most common heart rhythm disturbance. They can also lead to atrial clots and consequent stroke, and therefore have substantial clinical significance."

He continued: "There are multiple papers on ventricular cardiomyopathies but until now, no consensus was reached about atrial cardiomyopathies. This is a global consensus paper and an important step forward for research and treatment in this field."

The document contains the first definition and classification of atrial cardiomyopathies. The definition states that atrial cardiomyopathy is "any complex of structural, architectural, contractile or

electrophysiological changes affecting the atria with the potential to produce clinically relevant manifestations".

The novel classification scheme, called EHRAS (EHRA/HRS/APHRS/SOLAECE), denotes four classes based on histological and pathological findings including cardiomyocyte changes, fibrosis, and non-collagen infiltration.

"This is the first attempt to separate atrial pathologies into discrete groups," said Professor Goette. "It can be used to describe the underlying pathology in various clinical conditions. Ultimately it should help us to tailor therapies for atrial fibrillation based on the underlying cause, which might improve patient outcomes."

The paper outlines the triggers of atrial fibrillation. These include mutations, congestive heart failure, obstructive sleep apnoea, medications, aging, hypertension, obesity, and diabetes. Advice is given on how to prevent or delay the occurrence of atrial fibrillation.

Controversies surrounding the mechanism of atrial fibrillation are discussed. One theory is that fibrillation results from the continued random propagation of multiple independent electric waves that move independently throughout the atria. The opposing view is that fibrillation is a consequence of the continued activity of a few vortices (rotors) that spin at high frequencies. Regardless of the mechanism that maintains it, sustained atrial fibrillation leads to electrical remodelling that is reversible in the short term but not if it lasts for months or years. Professor Goette said: "Ongoing investigations into the mechanisms will stimulate improved treatment and prevention."

The paper addresses the potential use of biomarkers to predict atrial fibrillation and stroke risk. The authors state that "The clinical benefit of considering biomarkers associated with atrial fibrillation is questionable"

and there is limited evidence for their added value in stroke risk prediction.

Finally, advice is given on the use of imaging to screen and follow patients with atrial cardiomyopathies. For example, echocardiography is the modality of choice for screening and following patients with diseases involving left atrial morphology and function. Cardiac computed tomography can be used to screen for thrombus before ablation of atrial fibrillation.

Professor Goette said: "More research is needed to correlate EHRAS classes I-IV with imaging findings to help us better characterise atrial cardiomyopathies. This could have large clinical implications because patients with various degrees of myopathy might be treated differently."

He concluded: "Atrial fibrillation stems from a number of causes. Here we define and classify the different atrial pathologies so that ultimately, patients can be given individualised treatment that gives them the best possible outcome."

More information: The paper will be presented at Cardiostim EHRA Europace 2016 on 10 June, 11:00-12:30, Room 3.1 / Clio.

Provided by European Society of Cardiology

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