New classification system for cardiomyopathy

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Leading cardiologists at The Mount Sinai Hospital have contributed to the development of a new classification system called MOGE(S) for cardiomyopathies, the diseases of the heart muscle which can lead to heart enlargement and heart failure.

The new cardiomyopathy classification system was published simultaneously on November 18 by the *Journal of the American College of Cardiology* (*JACC*) and Global Heart, the journal of the World Heart Federation. The Mount Sinai Hospital co-authors include: Valentin Fuster, MD, PhD, Director of Mount Sinai Heart and Physician-in-Chief at The Mount Sinai Hospital; Sean Pinney, MD, Director of the Advanced Heart Failure and Transplantation Program at The Mount Sinai Hospital and Jagat Narula, MD, PhD, Director of Cardiovascular Imaging Program at The Mount Sinai Hospital.

The document endorsed by the World Heart Federation is a result of the monumental effort of a 17-member international committee of widely acclaimed investigators (including cardiologists, geneticists, pathologists and imagers). The committee was chaired by Dr. Narula, who also led the development of the classification system.

MOGE(S) classification system and its easy-to-use online web application tool for physicians: http://moges.biomeris.com can assist in the diagnosis and management of each individual cardiomyopathy patient by helping to classify his or her following five cardiomyopathic disorder attributes including:

- Morphofunctional characteristic, or observable clinical traits
- Organ involvement
- Genetic inheritance pattern
- Etiological, or explicit genetic defect cause
- Stage of heart failure (optional)

The new system uses a more comprehensive, descriptive nomenclature to explain each individual patient's cardiomyopathy using a configuration of letters as a descriptive language or code to reveal additional details instantly for the medical community to understand exactly what type of cardiomyopathy disorder and genetic mutations a patient has.

"This new MOGE(S) code for each patient will allow for clearer and greater understanding of a patient's cardiomyopathy, easier communication among physicians, and even help us develop multicenter and multinational registries for more future research into cardiomyopathies," says Dr. Jagat Narula, who also serves as Professor of Medicine and Associate Dean for Global Health, Philip J. and Harriet L. Goodhart Chair in Cardiology at Icahn School of Medicine at Mount Sinai.

"The new MOGE(S) classification system will allow us to begin diagnosing early cardiomyopathy better, where disease is not present but genetic information and advanced cardiac imaging shows evidence of increased risk of developing the condition, which will fuel clinical decision making for prevention of cardiomyopathy," adds Dr. Narula.

Also, an easy-to-use web application for MOGE(S) can be used on a computer, mobile phone, or other electronic device by medical professionals in daily clinical practice for a descriptive and comprehensive classification of a patient's individual cardiomyopathy type, here: http://moges.biomeris.com.

"MOGE(S) will allow us to now communicate better about cardiomyopathy across the fields of cardiology and heart failure," says Dr. Sean Pinney, Director of the Advanced Heart Failure and Transplantation Program at The Mount Sinai Hospital.

The authors of the new MOGE(S) classification system also propose an updated definition of "cardiomyopathy" to be "disorders characterized by the morphologically and functionally abnormal myocardium in the absence of any other disease that is sufficient, by itself, to cause the observed phenotype."

Most cardiomyopathies are genetic diseases. In recent years there has been a substantial increase in the knowledge of the genetic basis of cardiomyopathy. To date, more than 60 genes have been identified and linked to cardiomyopathy while genetic testing has helped characterize the various types of cardiomyopathies in patients.

"Increased family screening and monitoring has revealed that cardiomyopathies serve a long preclinical existence before symptoms or clinical presentation of the disease surfaces," says Dr. Valentin Fuster, the Editor-in-Chief elect of the *Journal of the American College of Cardiology* (*JACC*), who also serves as Director of the Zena and Michael A. Wiener Cardiovascular Institute and the Marie-Josée and Henry R. Kravis Center for Cardiovascular Health at The Mount Sinai Hospital, and the Richard Gorlin, MD/Heart Research Foundation Professor at Icahn School of Medicine at Mount Sinai. "Our new MOGE(S) system was inspired by the universally accepted TNM staging system for malignant tumors which allows for a common language and code to be used across the oncology community."

The authors note, as new scientific discoveries about cardiomyopathies evolve, so will in parallel the alphabetical components of the MOGE(S) classification system.

"We have made the MOGE(S) classification quite flexible and expandable. We hope classification, quite like the TNM staging will be continuously updated to include future advances, will help contribute to the better management of heart muscle diseases, and will allow better communication with a common language among the scientists working in the field of cardiomyopathic disorders," says Dr. Narula.

Provided by The Mount Sinai Hospital