

The Time Has Come for Quantitative Protein Mass Spectrometry Tests in Prediction and Diagnosis of Cardiovascular Diseases



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Abstract

Quantitative protein mass spectrometry is a promising, yet complex technology that enables precision diagnostics. It allows for the multiplexed and direct quantitation of analytes at the molecular level, potentially including identification of proteoforms. Therefore, MS based tests are now proposed more and more often in the field of clinical chemistry. Yet, quantitative protein mass spectrometry is a complex technique, which has hampered its applications. To ensure efficient test development, novel tests should target clinical gaps in the contemporary clinical pathways, and each of five key elements of test evaluation, as identified by the European Federation for Clinical Chemistry and Laboratory Medicine should be considered. Moreover, the test should be developed and implemented adhering to ISO 15189 requirements. Here we present our experience in the development and application of quantitative protein mass spectrometry, and aim to take away the concerns that have kept laboratory medicine from implementing this promising technology.

Biography

Dr. L. Renee Ruhaak is currently an associate professor at the department of Clinical Chemistry and Laboratory Medicine within the Leiden University Medical Center (LUMC). She has a background in analytical chemistry, specifically focusing on proteins and post-translational modifications. Her research focuses on the application of mass spectrometry within the clinical chemistry setting. This entails both development and implementation of quantitative protein mass spectrometry tests, as well as the role of mass spectrometry in metrology and test standardization. Ultimately, her goal is to contribute to a more sustainable healthcare system through enabling of P5 medicine by clinical proteoform testing.

Date: 12 November 2024 (Tuesday)

Time: 3:00pm

Venue: NUS, Centre for Life Sciences, Seminar Room 2

Host: Associate Professor Choi HyungWon / Dr Anne Bendt