The role of mass spectrometry in improving the diagnosis and treatment of patients with adrenal diseases

A state-of-the-art isotope dilution LC-MS/MS method was developed for the simultaneous measurement of nine steroids. Diurnal reference intervals were determined and published. The method was then employed to assess patients with different forms of adrenal disease. We found that after ACTH stimulation the two best markers of adrenal reserve were 11-DOC and corticosterone. Studies are currently underway further validating this statement. Cortisol should no longer be regarded as the most reliable test to perform after ACTH stimulation of the adrenals. Our studies with the new markers reveal a possible prior misclassification rate of 20%.

Biography

Steven J Soldin earned his Honors degree in Chemistry at the University of Witwatersrand in South Africa where he subsequently received his Master’s degree in Organic Chemistry, and also his PhD in Biochemistry. He enrolled and obtained his Boards in Clinical Chemistry at the University of Toronto. In 1988, he accepted the position of Director of Clinical Chemistry at Children’s National Medical Center in Washington, DC. As he was developing his mass spec work, he moved to the Clinical Research Center at Georgetown University as Director of their Mass Spectrometry Core facility, where he still serves as Adjunct Professor in the Department of Endocrinology and Metabolism. Starting 2011, he became a full time Senior Scientist at the Department of Laboratory Medicine, National Institutes of Health, USA, where he additionally holds the position of a Deputy Director of Chemistry and Director of Post-doctoral training program and the laboratory mass spectrometry facility.

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