Canadian Medical Hall of Fame
Temple de la renommée
médicale canadienne

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Mladen Vranic, MD DSc

In 1963, Dr. Mladen Vranic was invited to come to Canada by Dr. Charles H. Best, the co-discover of insulin, to be his final post-doctoral fellow. This sojourn marked the beginning of Dr. Vranic's remarkable career as a leading advocate for the advancement of diabetes research, and teacher of innumerable renowned scientists and academic leaders. The first of Dr. Vranic's major scientific contributions was the development of a precise tracer method that in combination with glucose clamps, measures precisely steady and non-steady state glucose turnover. Using this technique, he participated in the first clinical studies in insulin resistance and hypertriglyceridemia. From here, his brilliant career would lead to many more important contributions to medical science.

Dr. Vranic pioneered physiological and molecular mechanisms whereby exercise improves, or prevents onset of type 2 diabetes. He demonstrated a new mechanism whereby the muscle is protected against hyperglycemia and therefore, against diabetic complications. This early work led to the first international symposium on exercise and diabetes that continues to have a major impact.

Dr. Vranic's discovery of extra-pancreatic glucagon revolutionized the field by changing prevailing views that a given hormone is synthesized only in a specific gland. This provided additional evidence regarding the importance of glucagon in pathogenesis of diabetes. It is a landmark for a pancreatic hormone produced at equal rates in the pancreas and elsewhere. Dr. Vranic outlined the mechanisms of decreased counterregulation of hypoglycemia on the level of the hypothalamic-pituitary-adrenal axis and pancreas, and has patented a putative new method for alleviating these defects. In contrast to the deleterious effects of continuous stress, he demonstrated that intermittent neurological stress prevents onset of diabetes similarly to exercise, and he provided the mechanism of this effect on the level of the brain and pancreas.

A Fellow of the Royal Society of Canada (1997), Dr. Vranic received the Canadian Diabetes Association Inaugural Life-time Achievement Award (2007), and he was a recipient of the most important awards for diabetes worldwide: the Banting Medal for research (1991) and the Renold Award for educating scientists (2005), both from the American Diabetes Association. He was one of only three Canadians to receive an honorary degree from the Karolinska Institute Medical Faculty in Stockholm (1992).

*After being inducted into the Canadian Medical Hall of Fame in 2009, Dr. Vranic became a Fellow of the Canadian Academy of Health Sciences, was appointed an Officer of the Order of Canada and the Order of Ontario, and received honorary DSc degrees from the University of Toronto, the University of Zagreb, the University of Saskatchewan and McMaster University.