

MEDICAL PHILATELY

Nicolae Paulescu and Insulin

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N.C. Paulescu, discoverer of insulin showing insulin chain structure Stamp- Romania, 1999

Nicolae Paulescu (1869-1931), a Romanian physiologist, was born in Bucharest. A child prodigy, he graduated from Bucharest High School in 1888 and left for Paris, where he enrolled in Medical School and graduated with a Doctor of Medicine degree (1897). He was immediately appointed as Assistant Surgeon at *Notre-Dame du Perpetuel Secours Hospital*, normally a post difficult to get. Surprisingly, Paulescu returned to Romania in 1900, where he remained Head of the Physiology Department of Bucharest Medical School, as well as Professor of Clinical Medicine at St. Vincent de Paul Hospital, until his death in 1931.

1916, Paulescu developed an aqueous (watery) extract of bovine pancreas in salted water, purified with hydrochloric acid and sodium hydroxide, which, when injected into a dog with diabetes, had a normalizing effect on its blood sugar levels. He called it pancrein. Shortly, Paulescu was called for service in the Romanian Army during World War-I. After returning in 1921, he announced the discovery of 'pancreine' (now known as insulin) in three scientific papers in 1921 at the Romanian Section at the Society of Biology in Paris. They included effect of pancreatic extract injected by way of blood in diabetic dog, time taken for the action of lowering blood



Diabetic control awareness showing map of Dominica & pancreas. Stamp- Dominican Republic 1998

sugar, and effect of pancreatic extract in normal animals.

He submitted an extensive paper "Research on the role of the pancreas in food assimilation" in June 1921 to the Archives Internationales de Physiologie in Liege, Belgium which was published in August 1921. Paulescu also secured the patent rights for his method of manufacturing pancreine (insulin) on April 1922 by the Romanian Ministry of Industry and Trade.

Nobel Prize controversy- Eight months after Paulescu's publication, Banting, Macleod and Best, from University of Toronto, published their successful use of pancreatic extract for normalizing blood sugar in diabetic dogs and humans. Their work is a mere confirmation of Paulescu's work. Banting and Best announced their discovery of insulin on December 31 that year (1922) and published it in the February 1923 issue of *Toronto's Journal of Laboratory and Clinical Medicine*. Banting and Macleod were awarded the Nobel Prize- Physiology or Medicine for creating usable insulin in 1923. Paulescu wrote to the Nobel committee claiming priority but his claims were rejected. His pioneering work was completely



N. Paulescu, Romania, 1984

ignored by scientific and medical community.

Banting and Best knew of Paulescu's paper but misinterpreted it in their 1922 paper, because of inadequate knowledge of French, by saying: 'He [Paulescu] states that injections of pancreine (insulin) into peripheral veins produce no effect.....?'

Had the Nobel Committee checked Paulescu's paper, they would have noticed that Banting and Best had read it upside down! In a letter to Professor Ian Murray on 15 October 1969, Charles Best apologized, saying, 'I would like to state how sorry I am for this unfortunate error and trust that your efforts to honor Professor Paulescu will be rewarded with great success.'

Thanks to British professor Ian Murray, Paulescu's achievements were recognized as being significant in the history of insulin after 50 years.

It is quite possible that Paulescu's outspoken criticism of Darwinism and his anti-Semitic views 'sealed his fate'.