

Professor Artur Czyżyk (1927–2012): an excellent doctor, outstanding researcher, and cofounder of Polish diabetology*



Professor Artur Czyżyk; a photo by Krzysztof Niesporek taken by during the Centenary Celebration of the Polish Society of Internal Medicine; Warsaw, Poland, 2006

On 15 July 2012, we lost Professor Artur Czyżyk – an outstanding clinician and researcher, preceptor of many generations of physicians, one of the founders of Polish diabetology, and a member of numerous scientific societies. Professor Czyżyk was an exceptional physician – always devoted to his patients. He did his job with passion. He was an excellent diagnostician and educator – a teacher of numerous generations of students. With his vast knowledge on humanities, he was a true Renaissance man. He impressed us with his command of foreign languages. He was a connoisseur of French literature. We admired his deep understanding of diabetic biochemistry; his lectures were popular and were attended by large audience. He was very demanding both to himself and his assistants. We all remember the ward rounds, for which we would always prepare for many hours, but still we would never come up to Professor's expectations. Professor Czyżyk followed high standards in everyday life and re-

search work. He always expressed himself with great clarity and accuracy. Many generations of diabetologists learned from his textbook: *Pathophysiology and clinical presentation of diabetes mellitus* (original title in Polish: *Patofizjologia i klinika cukrzycy*). Although its last edition was published many years ago, Polish physicians continue to use it today because the book provides inspiration and answers to difficult questions. The Professor was a particularly thorough reviewer of numerous research papers and sometimes required multiple corrections to make the papers consistent with current medical knowledge. He taught subsequent generations of physicians critical and original approach to research and investigational work.

Professor Artur Czyżyk was born on 6 February 1927 in Bodzentyn, Poland, in a family of teachers. During the Nazi occupation, he lived in Gorlice where he graduated from gymnasium and completed the first year of humanities secondary school as part of underground education (organized secretly during the Second World War). He obtained a secondary school certificate after liberation in July 1945 at the Marcin Kromer College and Secondary School in Gorlice. In the years 1945–1950, he studied at the medical faculty of the Jagiellonian University in Cracow.

Professor Tadeusz Orłowski wrote about Professor Czyżyk in his memoirs: „in the last year of his study, as an outstanding student, he received doctoral scholarship from the Ministry of Higher Education, which enabled him to conduct research at the Pharmacology Research Unit of this University. As a result, his first steps in the field of science were guided by Professor J. Supniewski, one of the most famous Polish scientists, renowned for his excellent research skills. Certainly, it was just at that time that scientific profile of this young doctoral student was shaped, which is reflected in high precision and quality of research papers that he published”.

On 1 February 1951, he obtained his Medical Diploma. In the same year, at the age of 24, he obtained his PhD degree at the Faculty of Medicine

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of the Medical University in Cracow (thesis title: „Pharmacological properties of tetramethylthiuram disulfide and some of its derivatives”).

Since February 1951, Professor Czyżyk's scientific life has been associated with the 3rd Department of Internal Medicine of the Medical University of Warsaw, headed at that time by Professor Jakub Węgięrk. It was there that he received consecutive degrees of his professional and academic career. At the age of 33, he defended his habilitation thesis at the Faculty of Medicine at the Medical University of Warsaw (thesis title: „The behaviour of amino nitrogen and plasma free amino acids in diabetes”. In June 1971, he became Associate Professor and in June 1980, he obtained the title of Professor.

In the 1950s and 1960s, he participated in two longer clinical training research programs in overseas centers in Karlsburg and Paris.

In the years 1965–1965, he headed the 3rd Department of Internal Medicine of The Praski Hospital in Warsaw, and from January 1967 to May 1968, he was the head of the 2nd Department of Internal Medicine of the Central Clinical Hospital of the Ministry of Internal Affairs in Warsaw.

In June 1968, he was appointed the head of the 3rd Department of Internal Medicine at the Medical University of Warsaw, which in 1975 was renamed as the Department of Gastroenterology and Metabolic Diseases. He headed this department for nearly 30 years, until he retired on 30 September 1997. Under Professor Czyżyk, the department became an internationally renowned diabetes center.

In the years 1981–1988, he was a director of the Institute of Internal Medicine of the 1st Faculty of Medicine at the Medical University of Warsaw. Moreover, he headed the Department of Internal Medicine at the Ministry of Health and Social Welfare Clinic (1965–1997) and served as diabetes consultant in a health resort – Kołobrzeg (1962–1974).

Professor Czyżyk was deeply involved in university affairs. In the years 1970–1975, he was deputy dean of the 1st Faculty of Medicine and in the years 1972–1975, he was deputy vice-chancellor of the Medical University of Warsaw.

Professor Czyżyk participated in initiatives that led to the development of diabetes care in Poland and abroad (including the Arab countries). In Kołobrzeg, he established the largest health resort in Poland that specialized in diabetes treatment. He was a cofounder of the Bank of Technical Measures for Diagnosis and Management of Diabetes (Bank Środków Technicznych Stosowanych w Diagnostyce i Leczeniu Cukrzycy), which aimed at providing intensive insulin therapy (education, free of charge supply of insulin, pens, blood glucose meters, strips) to diabetic women who were pregnant or intended to become pregnant as well as to children and diabetic patients with vision disorders. Between 1986 and 1996, perinatal mortality in babies born to

diabetic mothers remaining under the care of the Bank (more than half of all pregnant diabetic women in Poland) was reduced from 12% to less than 2%.

For the entire period of his professional activity, Professor Czyżyk was deeply involved in didactic teaching both at the Medical University of Warsaw and in the Medical Centre of Postgraduate Education. Under his supervision, 30 physicians obtained their first-degree specialty in internal medicine, 20 physicians obtained their second-degree specialty, and 25 physicians specialized in diabetology. He was a supervisor of 31 PhD theses and 8 habilitation theses (mostly in the field of diabetology). He reviewed 33 PhD theses, 26 habilitation theses, and 16 applications for granting the title of professor.

He was the Editor-in-Chief of two Polish journals published in English: a quarterly, *Acta Medica Polona* (1971–1986), and a monthly, *Polish Archives of Internal Medicine* (1995–2008). He served numerous functions in Polish and international societies: he was member of the World Health Organization (WHO) Expert Committee on Diabetes (1967–1992), vice-president of the European Association for the Study of Diabetes (1968–1969), vice-president of the International Diabetes Federation (1976–1982), and vice-president of the Danube Diabetes Federation (1989–1993).

Professor's deep involvement in the various fields of science was highly appreciated not only in Poland but also abroad. He is the only Pole who has been granted the title of honorary member by the European Association for the Study of Diabetes in recognition of his contribution to diabetology. He was also granted honorary membership by Gesellschaft für Endokrinologie und Stoffwechselerkrankungen der DDR (1977), the Hungarian Diabetes Association (1986), Association de Langue Française pour l'Étude du Diabète et des Maladies Métaboliques (1988), the Polish Diabetes Association (1995), and the Polish Society of Internal Medicine (2004).

He was honored with the Knight's Cross of the Order of Polonia Restituta (1970), the Officer's Cross of the Order of Polonia Restituta (2000), the title of Distinguished Teacher of the Polish People's Republic (1973), the title of Distinguished Physician of the Polish People's Republic (1985), the Medal of the Polish Society of Internal Medicine (1979), the Medal of the National Education Commission (1995), the Medal of the Hospital of the Infant Jesus in Warsaw (2002), and the Medal for Merit to the Medical University of Warsaw (2009).

Professor Czyżyk's academic achievements comprise more than 350 publications including approximately 200 works published in foreign languages in international journals (mostly in English but also in German and French), which focused primarily on diabetes and, to a lesser extent, on other metabolic disorders and liver diseases. He wrote 35 chapters in Polish and

international textbooks and monographs for physicians and medical students. As mentioned above, he authored a large monograph: *Pathophysiology and clinical presentation of diabetes mellitus* (1st edition, 1987; 2nd edition, 1997).

Professor Artur Czyżyk has outstanding achievements in research, including:

- studies of amino-acid metabolism, especially in ketoacidosis; detection of the presence and increased levels of α -aminobutyric acid in plasma of dogs with ketoacidosis, description of the effect of intravenous infusion of L-leucine on clearance of other plasma amino acids in dogs, description of the effect of antidiabetic sulfonylureas (decrease) and antidiabetic biguanides (increase) on the level of plasma amino acids in adult onset diabetes mellitus (1955–1965)
- studies of antidiabetic biguanide mode of action including the discovery of phenphormine-mediated inhibition of intestinal glucose absorption (1968), which led to first attempts of using other methods of glucose absorption reduction in the intestine in diabetes therapy (dietary fiber, acarbose, amylin)
- studies of insulin immune properties, including demonstration that during administration of highly purified insulin (1987) and humanized insulin (5-year prospective studies) serum immunoglobulin G antibodies against insulin may develop – especially in the course of infection, following vaccination (1993)
- epidemiologic studies in diabetes: a) diabetes morbidity screening in accordance with the International Diabetes Federation guidelines (1963); b) prospective studies (1973/1974–1995) of mortality in diabetic patients and identification of risk factors for cardiovascular mortality (it is one of the longest studies of this kind in the world); c) participation in the prospective (1976–1995) study „WHO Multinational Study of Vascular Disease in Diabetes” (Warsaw Center 06), to compare the incidence of diabetic angiopathy in different regions of the world
- studies of secretory function of the pancreas: description of reduced pancreatic exocrine and endocrine reactivity to inhibitory effect of somatostatin in pancreatitis and development of a test based on this phenomenon (1979)
- studies of hepatic clearance of insulin based on concomitant measurement of serum C-peptide and demonstration of reduced hepatic clearance of insulin in states of increased insulin requirements in the tissues (obesity, 1980–1982)
- studies of liver function: analysis of pleiochromic bile in dogs with biliary fistula following hemolysis (1953); assessment of the usefulness of serum cholinesterase measurements in liver and biliary disorders (1951–1955); development of a modified intravenous fructose challenge test (Kf ratio; 1983); clinical study of primary hepatic amyloidosis (1961)
- studies of lipid metabolism: discovery of blood cholesterol level reduction by halogen derivatives of salicylhydroxamic acids (Nature, 1963)

- studies of the consequences of ethanol metabolism (apart from doctoral thesis, explanation of alcohol intolerance in sulfonylurea-treated diabetic patients with disulfiram-like reaction, 1957), demonstration of more severe alcohol-induced hypoglycemia with sulfonylureas (1994) and H₂ receptor blockers (1997).

Professor's life was interrupted by a long-lasting, progressive, and incurable disease.

Based on the Professor's autobiography and the fragments of the article by Professor Tadeusz Orłowski (Professor Artur Czyżyk. Pol Arch Med Wewn. 1998; 100: 102); edited by Dr Mariusz Tracz, MD, PhD, Dr Janusz Krzymień, MD, PhD, and Professor Waldemar Karnafel, MD, PhD – coworkers of Professor Artur Czyżyk from the Department of Gastroenterology and Metabolic Diseases, Medical University of Warsaw, Poland.