

Professor Ryszard Jerzy Gryglewski (1932–2023): in memoriam

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On January 30, 2023, professor Ryszard Jerzy Gryglewski, an eminent pharmacologist and a former head of the Department of Pharmacology at the Jagiellonian University Medical College passed away.

It is with great sadness and regret that we say goodbye to our mentor, teacher, a wonderful, inspiring tutor of many generations of students, and an outstanding scientist whose interest was focused on pharmacology and physiology.

Professor R. J. Gryglewski (FIGURE 1) was born on August 4, 1932 in Vilnius. He studied medicine at the Medical Faculty of the Nicolaus Copernicus Medical Academy in Kraków and graduated with honors in 1955. He received his PhD in 1958, the habilitation in 1964, and the title of professor in 1971. In 1965, professor R. J. Gryglewski was appointed as the head of the Department of Pharmacology at the Medical Academy in Kraków, after the sudden death of an outstanding pharmacologist, professor Janusz Supniewski. He was the rector of the Medical Academy in Kraków in the years 1981–1984.

Over the period of almost 40 years of his activity as the head of the Department of Pharmacology (until 2003), professor R. J. Gryglewski created a unique scientific and research center, well-recognized in the global environment of basic medical science. He promoted scientific mobility and established productive international collaborations. In 1976 in London, together with distinguished pharmacologists, Salvador Moncada, Stuart Bunting, and John Vane (FIGURE 2), he discovered prostacyclin—a major compound belonging to the family of eicosanoids produced by the vascular endothelium—which prevents platelet aggregation, thus having antiatherosclerotic effects.¹

Professor R. J. Gryglewski, together with a team of physicians from the Department of Internal Medicine at the Medical Academy in Kraków headed by Professor Andrzej Szczeklik, used prostacyclin for the first time in patients with lower

limb ischemia.² He also used this newly discovered compound in patients with ischemic stroke.³ Thus, professor R. J. Gryglewski can be regarded as one of the founders of “endothelial pharmacology.”⁴ Before the era of groundbreaking discoveries, to which he was a major contributor, the endothelium was considered only a passive lining of vessels, and not a source of several active endogenous mediators of the cardiovascular system.

Professor R. J. Gryglewski also proved experimentally that the so-called “rabbit aorta contracting



FIGURE 1 Professor R. J. Gryglewski, photo courtesy of the family

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FIGURE 2 From the left: professor A. Szczeklik, professor R. J. Gryglewski, the wife of Professor Szczeklik – Maria, Sir John R. Vane; reprinted from⁹



FIGURE 3 Professor A. Szczeklik (speaking) and professor R. J. Gryglewski (in the middle) at the annual symposium organized by the Jagiellonian Medical Research Center, Kraków, early 1990s; reprinted from¹⁰

substance” is a metabolite of arachidonic acid—a finding that enabled Bengt Samuelsson to discover thromboxane A₂.⁵ For their work on prostaglandins (including prostacyclin) and leukotrienes, Sune Bergstrom, Bengt Samuelsson, and John Vane were awarded the Nobel Prize in Physiology or Medicine in 1982.⁶ In 1975, professor R. J. Gryglewski showed that the inhibition of the release of arachidonic acid represents the mechanisms of action of glucocorticosteroids.⁷ His study describing discovery of the free radical mediated mechanism underlying the regulation of nitric oxide stability was published in *Nature* in 1986.⁸

Professor R. J. Gryglewski, together with the late Professor Andrzej Szczeklik (FIGURE 3), was involved in the research on the so-called “aspirin-induced asthma” (AIA) and contributed to the concept that this disease is not caused by sensitization to nonsteroidal anti-inflammatory drugs but results from the inhibition of the cyclooxygenase type 1 (COX-1) pathway.⁹

During his professional career, professor R. J. Gryglewski has been distinguished many times for his outstanding scientific achievements. He received, among others, the Foundation for Polish Science Award, Medicus Magnus, and the Grand Commander’s Cross of the Order of Polonia Restituta. On January 26, 2017 he received the Order of the White Eagle, Poland’s highest order instituted in 1705 and awarded to civilians and the military for their merits. He was an ordinary member of the Polish Academy of Sciences (PAN) and the Polish Academy of Arts and Sciences (PAU). Furthermore, he was awarded the title of doctor honoris causa 7 times by Polish and foreign universities. Scientific achievements of professor R. J. Gryglewski in the difficult 1980s were an inspiration and a challenge. They stimulated the efforts of his co-workers from the Department of Pharmacology and the team of professor Andrzej Szczeklik. Thanks to his contributions, Kraków’s immunologists became pioneers

in the research on the role of nitric oxide and eicosanoids in the immune system.

Without a doubt, Professor R. J. Gryglewski was a model scientist for us and he should be a paragon for today's young researchers. His legacy will live on.

Hail to his memory!

ARTICLE INFORMATION

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CONFLICT OF INTEREST None declared.

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