

Birthday Anniversary

Mária Gerová M.D., D.Sc.

Dr. M. Gerová celebrates her 80th birthday on February 1 of this year, Dr. Gerová belongs to distinguished Slovak physiologists. Her life has entirely been devoted to her interest in science and her remarkable accomplishments in the field of normal and pathological cardiovascular physiology are well known.

Dr. Gerová studied medicine at the Medical Faculty of Comenius University in Bratislava, and graduated in 1950. She became an Assistant Professor at the Department of Experimental Pathology. In 1951 - 1956 she spent several years at the Institute of Cardiovascular Diseases - (Ústav chorob obehu krvi) in Prague where her supervisor was Prof. Jan Brod and defended her PhD thesis there. Then she returned to Bratislava and actively contributed to found new research laboratories within the framework of the Slovak Academy of Sciences. She became a member of the Department of Clinical Physiology at the Institute of Experimental Medicine which was renamed in 1965 as Department of Cardiovascular Physiology of the Institute of Normal and Pathological Physiology and has remained in this department since.

Dr. Gerová, with her husband dr. Ján Gero, considerably contributed to the elucidation of the baroreceptor area of the carotid sinus in regulating blood circulation. They revealed the role of the dynamic component of blood pressure in the sinocarotid area as the stimulus for baroreceptors (pulsatile amplitude and pulsatile frequency), and consequently the reflex feedback response of systemic blood pressure.

She studied and defined the biomechanical properties of conduit vessels and their control by the autonomic nervous system. Dr. Gerová with her husband provided data concerning the range of sympathetic constriction of individual consecutive segments of the

arterial tree. Confronting the functional data with localization of adrenergic terminals in the adventitia she introduced the concept and finally also experimental evidence about diffusion of the adrenergic transmitter across the vessel wall.

Dr. Gerová showed that conduit coronary arteries have an exceptional position in the cardiovascular system. She obtained the first data of radial and longitudinal deformation of two main conduit coronary arteries, in relation to the left and right ventricle volume. She also described two contrasting processes operating in the coronary wall during

sympathetic stimulation: one constrictory - operating from the adventitia, and the other relaxing - operating from the endothelium. Dr. Gerová succeeded in measuring nitric oxide in blood vessels *in vivo* in anesthetized animals. Furthermore, she described the role of sympathetic nervous system in experimental hypertension induced by nitric oxide deficiency. She also contributed to the elucidation of cardiovascular control in ontogenesis.

Dr. Gerová is the author or co-author of more than 450 scientific reports, of which more than three hundred were published abroad. She has written a monograph "The Elasticity of Sinocarotid Region" with dr. Gero and has prepared several chapters with cardiovascular topics in monographs edited by others. Her name has been found in leading world scientific journals, and the quotation response to her publications in the world has also been highly exceptional for our past circumstances.

She has been an active member of many scientific societies, including The Association of American Medical Colleges. Over the years she has been an active contributor to the journal *Physiological Research* as an author, reviewer and a member of The



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International Advisory Board. She also has served in the editorial board of Experimental and Clinical Cardiology. In 1986 - 1993 she was a member of the Council of International Union of Physiological Sciences. She is a member of the Learned Society of the Slovak Academy of Sciences.

Dr. Gerová has significantly contributed during her professional life with her fruitful experimental work to the development of views concerning the control of the cardiovascular system, especially from the functional point of view. Her foremost professional contributions to science are incontestable. For us, her coworkers, dr. Gerová has been an example of an enthusiastic investigator.

We as coworkers of dr. Gerová express our sincere thanks for all that she has done for science in the Department of Cardiovascular Physiology and for science in general. We are fortunate to have among us such a great scientist who has always enthusiastically encouraged us towards scientific research and gave us invaluable advice and suggestions for our work. We hereby express esteem and best wishes to this distinguished physiologist.

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