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Pages of biography and scientific heritage of the outstanding professor-pathologist Sergei Martynovich Derizhanov (1898–1945)

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ABSTRACT. The article presents the facts of biography of the famous pathologist, Doctor of Medical Sciences, Professor Sergei M. Derizhanov. S.M. Derizhanov is a graduate of the medical faculty of Don University, head of the departments of pathological anatomy of Smolensk (1931–1941) and Ivanovo (1942–1945) medical institutes. Sergei M. Derizhanov is the dean of the medical faculty of the Smolensk State Medical Institute, the author of the first monographs in the Soviet Union on morphology of primary lung cancer (1932), intestinal anthrax (1935), and osteomyelitis (1940). From the first years of medical practice with S.M. Derizhanov showed a thirst for research work, a passionate desire to learn new things, and a talent for research. He was an extraordinary, kind, intelligent, very emotional and hot-tempered person, who knew how to notice the unusual in the most ordinary situations, and had a great capacity for work. Professor-pathologist S.M. Derizhanov actively involved students and young doctors in scientific work and was fluent in the German language. Sergei M. Derizhanov is an outstanding scientist who selflessly served science and devoted his entire short life to pathological anatomy. He trained 2 doctors and 8 candidates of science, who later became famous figures in the medical science. The youngest daughter of Sergei M. Derizhanov, Irina S. Derizhanova, also became a pathologist, defended her dissertation for the degree of Doctor of Medical Sciences and headed the Department of Pathological Anatomy at Rostov State Medical University (1990–2021). Representatives of the Derizhanov medical dynasty made outstanding contributions to the Russian medicine.

KEYWORDS: Sergei M. Derizhanov, pathologist, allergic theory of osteomyelitis, Smolensk, pathological anatomy

Страницы биографии и научное наследие выдающегося профессора-патолога Сергея Мартыновича Дерижанова (1898–1945)

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РЕЗЮМЕ. В статье представлена биография известнейшего врача-патологоанатома, доктора медицинских наук, профессора Сергея Мартыновича Дерижанова. С.М. Дерижанов — выпускник медицинского факультета Донского университета, заведующий кафедрами патологической анатомии Смоленского (1931–1941) и Ивановского (1942–1945) медицинских институтов. Сергей Мартынович — декан лечебного факультета Смоленского государственного медицинского института, автор первых в Советском Союзе монографий, посвященных морфологии первичного рака легких (1932), кишечной формы сибирской язвы (1935), остеомиелиту (1940). С первых лет врачебной деятельности у С.М. Дерижанова проявилась тяга к научно-исследовательской работе, страстное желание познания нового, талант исследователя. По воспоминаниям современников, это был неординарный, добрый, интеллигентный, очень эмоциональный и вспыльчивый человек, умевший замечать необычное в самых обычных ситуациях, обладавший большой работоспособностью. Профессор-патолог С.М. Дерижанов активно вовлекал в научную работу студентов и молодых врачей. Он свободно владел немецким языком. Сергей Мартынович Дерижанов — выдающийся ученый, беззаветно служивший науке и отдавший патологической анатомии всю свою короткую жизнь. Он подготовил 2 докторов и 8 кандидатов наук, впоследствии ставших известными деятелями медицинской науки. Младшая дочь Сергея Мартыновича Ирина Сергеевна Дерижанова также стала врачом-патологоанатомом, защитила диссертацию на соискание ученой степени доктора медицинских наук и заведовала кафедрой патологической анатомии Ростовского государственного медицинского университета (1990–2021). Представители врачебной династии Дерижановых внесли выдающийся вклад в отечественную медицину.

КЛЮЧЕВЫЕ СЛОВА: Сергей Мартынович Дерижанов, врач-патологоанатом, аллергическая теория остеомиелита, Смоленск, патологическая анатомия

Sergey Martynovich Derizhanov was born on 25 June 1898 in the family of a piano teacher, Ekaterina Kasparovna (nee Muratchaeva) and a doctor Martiros Sarkisovich (Fig. 1). Scientific sources give different information about the birthplace of the scientist: some documents state that he was born in Moscow; articles devoted to anniversary dates mention the city of Rostov-on-Don or Armavir.

In 1897 Martiros Sarkisovich graduated from the medical faculty of Kharkov University. After a while the Derizhanovs moved to Germany, where his father continued his studies. Unfortunately, the head of the family fell ill with pulmonary tuberculosis in Berlin, and the Derizhanovs were forced to move to Yalta. There Martiros Sarkisovich met and became friends with Anton Pavlovich Chekhov, Ivan Konstantinovich Aivazovsky, treated the writer Larisa Petrovna Kosach, known under the pseudonym Lesya Ukrainka. In January 1900 M.S. Derizhanov died of pulmonary tuberculosis, and Ekaterina Kasparovna, Sergey and his younger sister Maria had to leave for Armavir [1]. In 1918 Sergey Martynovich graduated from the Armavir gymnasium, after which he entered the medical faculty of the Don University (Fig. 2).

In 1923, Sergey Martynovich was hired as an anatomist in the district hospital, and also be-

gan to work as an assistant at the Department of Pathological Anatomy of the Don University. Doctor of Medical Sciences, Professor Shalva Iosifovich Krinitsky became the scientific supervisor of the young doctor and scientist. The name of Sh.I. Krinitsky is known outside Rostov-on-Don. His scientific interests included warfare poisoning agents and their influence on organs and tissues, morphology of kidney, heart and cancer diseases. For forty years, in 1921–1961, he headed the chair of pathological anatomy of Rostov Medical Institute, trained 6 doctors and 24 PhDs. Shalva Iosifovich enjoyed well-deserved respect among colleagues and students [7]. After S.M. Derizhanov moved to Smolensk, Shalva Iosifovich and Sergey Martynovich maintained correspondence, and the scientific supervisor always sincerely rejoiced at the successes of his student. Sergey Martynovich Derizhanov had friendly relations with Professor Nikolai Ivanovich Napalkov — an outstanding scientist, the creator of the school of surgeons.

In 1930, under the guidance of Sh.I. Krinitsky Sergei Martynovich Derizhanov defended his PhD thesis “Pathological anatomy of primary lung cancer”, which was the first work in the Soviet Union on this topic, it aroused great interest in scientific circles.



Fig. 1. Ekaterina K. and Martiros S. Derizhanov [5]

Рис. 1. Екатерина Каспаровна и Мартирос Саркисович Дерижановы [5]



Fig. 2. Student S.M. Derizhanov (1917) [5]

Рис. 2. Студент С.М. Дерижанов (1917) [5]

In 1928 Sergey Martynovich Derizhanov married Lia Konstantinovna Vlasova (1907–1938), a student of the Rostov Medical Institute. In 1929 the Derizhanovs gave birth to a daughter Lydia. Living conditions were difficult: there was no flat, not enough wages. In this regard, in 1931, Sergei Martynovich made a difficult decision: he submitted documents for a competition for election to the position of head of the Department of Pathological Anatomy of the Smolensk State Medical Institute (SSMI) [5].

In 1926–1930, the Department of Pathological Anatomy was headed by Professor Peter Lvovich Poznanin, a graduate of Moscow University. His scientific interests included endocrine gland pathology and cancer theories. In 1927 Pyotr wrote lectures on general and private pathological anatomy, which were published on hectograph in Smolensk in 200 copies. In 1929, Professor P.L. Poznanin achieved the opening of a postgraduate course at the Department of Pathological Anatomy of the Medical Faculty of Smolensk University. In 1930, Peter Lvovich was elected to the post of professor of the 2nd Moscow Medical Institute.

Sergey Martynovich Derizhanov headed the department in 1931, at a rather young age. At that time, many professors of the medical insti-

tute were much older than him, which caused a certain tension in the team. Immediately after moving to Smolensk, Sergey Martynovich actively engaged in scientific, clinical and pedagogical activities. In 1935 he was awarded the title of professor based on the totality of his scientific works. In a short period of time the area of the department was considerably expanded and a large vivarium was created.

In 1937 the Academic Council of the Smolensk State medical Institute (SSMI) elected Sergey Martynovich as Dean of the Faculty of Medicine. It should be noted that 1937 was a difficult year for SSMI since the director F.S. Bykov was removed from his post. He was dismissed for his relationship with the former People's Commissar of Health G.N. Kaminsky, who was recognized as a public enemy. The name of G.N. Kaminsky was given to the Smolensk State Medical Institute in 1935. V.A. Batanov was appointed the new director of the Institute. Many teachers and professors of the SSMI were dismissed.

In 1937, Sergey Martynovich Derizhanov was elected head of the Department of Pathological Anatomy of the Smolensk State Dental Institute, opened in 1936. Working in a specialized university led S.M. Derizhanov to an idea of studying diseases of the oral cavity through the prism of overall body condition [8].

During the period of S.M. Derizhanov's work as the head, the Department of Pathological Anatomy of SSMI became a kind of scientific and methodological center of the Institute. The department achieved significant successes in teaching and research work; there were established scientific ties between the Department of Pathological Anatomy and the central leading universities and research institutes of the country.

Sergey Martynovich prepared 6 PhDs and 2 Doctors of Science in Smolensk. He managed to create a team of like-minded people who were actively engaged in scientific and educational work (Fig. 3).

In April 1940, Professor S.M. Derizhanov was awarded the sign "Excellent Health Care Worker", in November 1940, by the 23rd anniversary of the October Socialist Revolution, he received a commendation from the People's Commissariat of Health of the RSFSR (Fig. 4).

In addition to active scientific and pedagogical work Sergei Martynovich was engaged in organizational activities: he proposed a concept



Fig. 3. Employees of the Department of Pathological Anatomy of SSMI: assistant V.G. Molotkov, professor S.M. Derizhanov, assistants V.P. Kesareva, O.N. Survillo, D.P. Smirnov, T.I. Stankevich, P.P. Erofeev (1937) [5]

Рис 3. Сотрудники кафедры патологической анатомии СГМИ: ассистент В.Г. Молотков, профессор С.М. Дерижанов, ассистенты В.П. Кесарева, О.Н. Сурвилло, Д.П. Смирнов, Т.И. Станкевич, П.П. Ерофеев (1937) [5]

of a new pathology bureau as a separate research institute, but the Great Patriotic War hindered his plans. This idea was fulfilled only in 1993 by Alexander Evdokimovich Dorosevich, Professor, Doctor of Medical Sciences, Head of the Department of Pathological Anatomy of Smolensk State Medical Institute.

During his work at SSMI S.M. Derizhanov performed a number of important scientific studies. In 1932 the first monograph on pathomorphology of lung cancer in the USSR was printed in the Western regional publishing house. It presented not only macro- and microscopic picture of malignant neoplasm of this localization, but also proved that tuberculosis promotes the development of lung cancer. The monograph consisted of three chapters: the first one contained data on statistics and etiology of lung cancer, it described changes in bronchial epithelium of people aged over 30 years. The second chapter of the publication was devoted to macro- and microscopic characterization of lung cancer, and also provided information from case histories. The third chapter of the monograph covered the issues of the relationship between tuberculosis and lung cancer [4].

In 1935 Sergey Martynovich published the second monograph "Pathological anatomy and

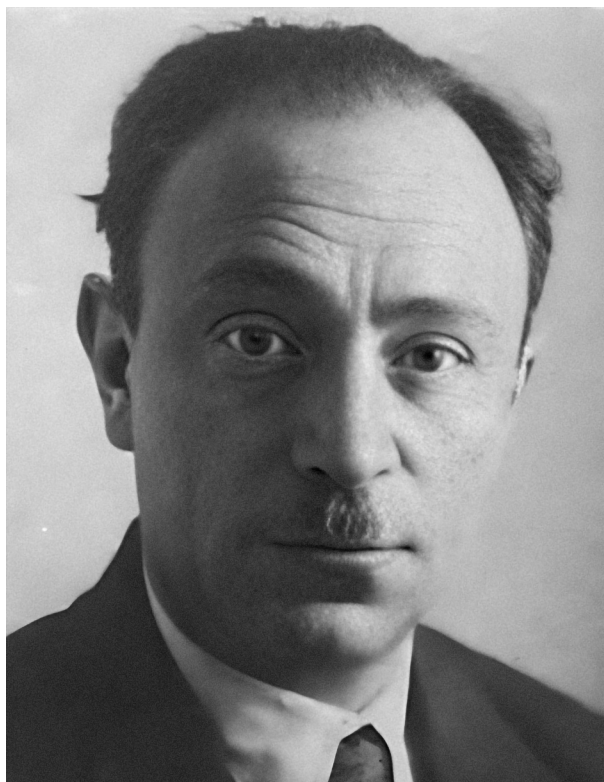


Fig. 4. Professor S.M. Derizhanov (from the album of the 1st issue of the Smolensk State Dental Institute (1940))

Рис. 4. Профессор С.М. Дерижанов (из альбома 1-го выпуска Смоленского государственного стоматологического института (1940))

pathogenesis of intestinal anthrax". The work consisted of four chapters: general information on the epidemiology of anthrax in pre-revolutionary Russia, ways of penetration of anthrax infection, pathological anatomy of intestinal anthrax, mechanism of penetration of anthrax infection through the intestinal wall. The monograph was highly appreciated by the famous professor-pathologist, future academician of the Academy of Medical Sciences of the USSR A.I. Abrikosov: "...there are few works devoted to the pathological anatomy of anthrax; and even less that were specifically devoted to the intestinal form of anthrax. At the same time, the need for such work is very great...". Sergey Martynovich pointed out that anthrax pathogens could be used as bacteriological weapons. The publication immediately became a bibliographic rarity, as it became the only source of reliable information on the pathological anatomy of intestinal anthrax [2, 5].

In the mid-30s of the XX century, Sergey Martynovich began to study osteomyelitis. The Department of Pathological Anatomy of the SSMI had a vivarium for rabbits, where Sergey Martynovich conducted research. He managed to obtain experimental osteomyelitis in a rabbit, changing reactive qualities of bone marrow after introduction of horse serum for hypersensitization into the medullary cavity of a long tubular bone. Taking into account the allergic theory, the non-specific irritation first causes aseptic reactive inflammation in the bone. When sensitized

it is sensitized and there is a bacterial pathogen, it passes into a suppurative process, the extent of which and its clinical manifestations are determined by a reaction to the irritant. In his work he also used an X-ray device to study bone tissue lesions (Fig. 5). The scientist performed four series of experiments. The work is documented by a large number of radiographs and microphotographs confirming the development of various forms of experimental osteomyelitis.

Main provisions of the allergic theory of osteomyelitis were published in the journal "Soviet Surgery" for 1937 (Nos. 4, 5, 6). For his research, Sergey Martynovich was awarded the Professor S.P. Fedorov Prize in 1938. In 1940 the monograph of Professor S.M. Derizhanov "Pathological anatomy and pathogenesis of osteomyelitis" was published in the publishing house of the Smolensk Regional Local History Research Institute. This work brought him fame on a national scale and was highly appreciated by pathological anatomists abroad. In 1940, a contract was concluded with the All-Union Foreign Trade Association "International Book" to publish a translation of this book into any foreign languages at the discretion of the institution [3, 5].

The Great Patriotic War crossed out all plans for further peaceful life. By the end of June 1941, the constant bombardment of Smolensk began, there was a need for a hasty evacuation of workers and property of factories and enterprises,



Fig. 5. Professor S.M. Derizhanov at the X-ray machine in the laboratory of the department (1935) [6]

Рис. 5. Профессор С.М. Дерижанов у рентгеновского аппарата в лаборатории кафедры (1935) [6]

higher educational institutions. Sergey Martynovich and his family left the blazing city in a private car, leaving all their belongings behind. Dental and medical institutes of Smolensk were evacuated to Saratov. Professor Derizhanov was appointed Associate Professor of the Department of Pathological Anatomy at the Saratov Medical Institute, where he worked until April 1942. In May 1942, S.M. Derizhanov was approved as Head of the Department of Pathological Anatomy at the Ivanovo Medical Institute.

Throughout the Ivanovo period, Sergey Martynovich gained the respect of his colleagues and the love of his students. Many future doctors remembered his authorial manner of lecturing: relaxed form of presenting the material, active gesticulation; sometimes S.M. Derizhanov even sat on the table! In addition to training students, he was actively engaged in science and consultative work in evacuation hospitals of the Ivanovo Regional Health Department. Graduates of Ivanovo Medical Institute Galina Mikhailovna Tsvetkova, Nina Vladimirovna Pryanishnikova (Onopchenko), Olga Nikolaevna Nechaeva came to the department for postgraduate studies: they actively joined the educational, methodical and therapeutic process. During his work in Ivanovo Medical Institute under the guidance of S.M. Derizhanov 2 PhD theses were defended. Sergey Martynovich began to study a new topic — gunshot osteomyelitis, which became relevant in wartime. S.M. Derizhanov began to explore pathogenesis of gunshot osteomyelitis in Saratov Medical Institute. In 1944, he received a positive review by Academician of the USSR Academy of Medical Sciences A.I. Abrikosov in his monograph “Pathological Anatomy and Pathogenesis of Gunshot Osteomyelitis”. The manuscript was sent to the Medgiz publishing house.

Living conditions of the Derizhanov family were poor during the war. Hard work, often connected with occupational hazards, insufficient nutrition, and a cold climate in Ivanovo undermined Sergei Martynovich's health. In spring 1943 he fell ill with flu, the old tuberculosis process in his lungs aggravated. In January 1945 S.M. Derizhanov was submitted by the People's Commissariat of Health of the RSFSR for transfer to the department of the Odessa Medical Institute. In spring 1945, pulmonary tuberculosis was complicated by tuberculosis of the larynx. Specialists recommended urgent sanatorium treatment and increased nutrition. Professor De-

rizhanov worked tirelessly, not sparing his poor health despite the severe illness. In May 1945 the Great Patriotic War ended. On 5 November 1945 Sergey Martynovich Derizhanov died of progressive tuberculosis of the lungs and larynx.

Professor S.M. Derizhanov created his own school of pathologists. 8 PhD theses and 2 doctoral dissertations were defended under his supervision. All post-graduate students of Sergey Martynovich later became famous scientists, worked in medical universities. Professor Vladimir Gerasimovich Molotkov, Honoured Scientist of the RSFSR, headed the Department of Pathological Anatomy at the Smolensk Medical Institute. Professor Petr Petrovich Erofeev (1903–1962) headed the departments of pathological anatomy at the Arkhangelsk (1940–1948), Ivanovo Medical Institutes (1948–1960), and the Central Institute for Advanced Training of Physicians (1960–1962). Professor Oleg Nikolaevich Survillo (1908–1985) headed the Department of Histology at the Voronezh Medical Institute (1964–1974). Professor Nina Vladimirovna Onopchenko headed the Department of Pathological Anatomy at the Krasnodar Medical Institute (1962–1988). Professor Olga Nikolaevna Nechaeva (1923–2010), Honored Health Worker of the Russian Federation, headed the Department of Pathological Anatomy at the Ivanovo Medical Institute (1965–1990). Professor Galina Mikhailovna Tsvetkova (1918–2012) headed the pathomorphological department of the All-Union Research Institute of Dermatology and Venereology (1963–1987). Associate Professor V.P. Kesareva worked at the Institute for Advanced Training in Moscow, and for many years was the secretary of the Moscow Society of Pathologists.

The youngest daughter of Sergey Martynovich, Irina Sergeevna Derizhanova (1937–2021) is the Doctor of Medical Sciences (1979), Professor (1991), Head of the Department of Pathological Anatomy of Rostov State Medical University (1990–2021). She was a bright successor of the family dynasty of physicians. 21 PhD theses and 2 doctoral dissertations were defended under her guidance. Irina Sergeevna's scientific interests included pathological anatomy of gastrointestinal diseases and neuroendocrine tumors. For many years she led the student scientific society of the university, was the chairman of the Rostov Society of Pathologists, a full member of the International Academy of

Pathology, a member of the editorial board of the journal “Archives of Pathology”, a member of the All-Russian Educational and Methodological Commission for teaching pathological anatomy, the chief pathologist of the Southern Federal District.

Sergey Martynovich Derizhanov left a noticeable trace in medical science. He devoted his whole short life to pathological anatomy. His studies devoted to malignant lung neoplasms, anthrax and its effect on the organism and problems of osteomyelitis have not lost their relevance even nowadays.

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