N.V. Sklifosovsky – creator of the clinical medicine campus in Devichye Pole in Moscow (on the 180th anniversary of his birth)

Svetlana A. Kabanova*, Pavel M. Bogopolsky**

* N.V. Sklifosovsky Institute of Emergency Care

3 Bolshaya Sukharevskaya Square, Moscow 129090, Russia

** B.V. Petrovsky National Research Center of Surgery

2 Abrikosovsky Lane, Moscow 119991, Russia

Abstract. The article briefly highlights key stages in the life and activities of N.V. Sklifosovsky (1836–1904), his scientific achievements and priorities. Particular attention has been paid to Sklifosovsky's contribution to the planning and construction of the first clinical medicine campus in Russia, located at Devichye Pole in Moscow, on the territory of current-day I.M. Sechenov First Moscow State Medical University. A consistent supporter of the ideas of the great N.I. Pirogov, Sklifosovsky devoted much of his life to the development of surgery, the organization of scientific research and the improvement of medical education in Russia. He made a significant contribution to military surgery and significantly improved medical care for those wounded on the battlefield.

Sklifosovsky began one of his most fruitful periods of life and work at the medical faculty of Imperial Moscow University (1880–1893). He became the founder of one of the largest scientific schools in Russia, whose representatives made a great contribution to the development of domestic surgery. In 1883, Sklifosovsky headed a special commission that developed and presented in the autumn of the same year its recommendations to the University Council for the construction of a clinical medicine campus. Using his medical and public authority, Sklifosovsky collected large donations for its design and construction.

Keywords: Moscow University, clinical medicine campus, N.V. Sklifosovsky, founder

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About the authors

Svetlana A. Kabanova – Doctor of Medical Sciences, Doctor of Medical Sciences, Deputy Director for Scientific and Organizational Work at the N.V. Sklifosovsky Institute of Emergency Care (Moscow). E-mail: kabanovasklif@mail.ru Pavel M. Bogopolsky – Doctor of Medical Sciences, Senior Researcher at the Department of the Scientific Programs and Staff Training, B.V. Petrovsky National Research Center of Surgery (Moscow). E-mail: bogopolsky_med@mail.ru

Nikolai V. Sklifosovsky (1836–1904) was a highly prominent Russian surgeon, scientist, teacher and public figure of the last quarter of the 19th century (Fig. 1). A consistent advocate of the great ideas of N.I. Pirogov, Sklifosovsky actively promoted an anatomic school of surgery and facilitated the introduction of anesthesia, antisepsis and aseptic principles into broad practice. Sklifosovsky pioneered abdominal surgery in Russia, he even performed the first successful ovariotomy (laparotomy) in the antiseptic era. He operated widely on the gastrointestinal tract and organs of the urogenital

Received: 15.02.16 © Svetlana A. Kabanova, Pavel M. Bogopolsky system: developed methods of surgical treatment for cerebral herniation and proposed an original method for connecting tubular bones - the "Russian castle" operation. He also developed a method for the removal of bladder stones, the replacement of defects of the vertebral arch with free bone grafts, resection methods for the jaw, tongue and thyroid, as well as other operations. Sklifosovsky devoted much of his life to the development of surgery and the organization of scientific research in Russia. He wrote 114 scientific works that reflected his clinical experience and innovative ideas. Sklifosovsky took part in four wars, made a significant contribution to the development of military surgery and significantly improved medical aid for those wounded on the

battlefield and in troop rear area units. A gifted teacher, he did much to improve the medical education system in Russia and the professional development of doctors. Sklifosovsky was one of the founders of Russian surgical publishing and

initiator of the Russian Surgeons Congress. In celebration of Sklifosovsky's 25-year professorship, one of the telegrams he received stated: "You have raised the surgical teacher's banner from the cold, still hand of the great Pirogov and wave it highly in front of many students and colleagues as a worthy successor to the famous mentor" [1].

Sklifosovsky was born on March 25 (April 6 according to the Julian calendar), 1836 on the Karantin farmsted near the town of Dubossary in the Kherson province, to a poor aristocratic family in which Sklifosovsky was the ninth child of 12. Due to his parents' poor financial situation, he was sent to the Public Charity Order of Odessa orphanage, where he was raised through

to the completion of his gymnasium course. The main distinguishing features of his character were formed during these difficult years – curiosity, dedication, hard work and extraordinary perseverance in achieving his goals. Due to his outstanding abilities, Sklifosovsky became one of the top pupils of the 2nd Odessa Gymnasium. He was rewarded for excellence in his studies and his in-depth knowledge, as demonstrated in the finals, when the pedagogical council awarded him a silver medal and issued him a diploma with distinction, providing him with a number of benefits upon enrolling in university. Sklifosovsky wanted to become a doctor, and on October 11, 1854, the Public Charity Order of Odessa sent a request to the rector of the Imperial Moscow University (IMU) to accept Sklifosovsky as a medical student with state support. In November 1854, the IMU granted this request [1] by special resolution of the board. Despite the hardship that Sklifosovsky experienced throughout his five years at the IMU, he was very successful in his

Fig. 1. Portrait of N.V. Sklifosovsky, 1882. Photo from the B.V. Petrovsky Russian Research Center of Surgery Museum's collection.

studies and was one of the few graduates of the Faculty of Medicine to receive a doctor's degree with honors and the right to write and defend a doctoral thesis. Graduating brilliantly in 1859 from the IMU, he left to serve his residency in

Odessa, where he was appointed resident physician in the city hospital. Over the years in Odessa, Sklifosovsky, who was well educated and fluent in several languages, became a notable surgeon with good scientific and practical training. Based on the results of his medical practice he defended his doctoral thesis "On parametric hematocele" at Kharkov University in 1863.

> In 1866, Sklifosovsky was sent on abroad for professional development, but following the outbreak of the Austro-Prussian War he enlisted as a military doctor in the Prussian army. After the war, Sklifosovsky visited the best clinics of

Germany, France and Great Britain, and two years later returned home invigorated with a great wealth of knowledge and new plans.

According to the recommendations of Pirogov,¹ in 1870 Sklifosovsky was elected professor of surgical pathology with desmurgy at the University of St. Vladimir in Kiev [2]. His short time in Kiev ended tragically for Sklifosovsky: he fell ill with typhus, which he endured quite easily, in contrast to his wife Elizabeth Bonner who cared for him - she did not survive the serious illness and died at the age of 24, leaving four children. In 1870, placing his children in the care of governess Sofia Alexandrovna, who later became his second wife, Sklifosovsky voluntarily enlisted as a surgeon in the Prussian army during the Franco-Prussian War [3] where he had an opportunity to get acquainted with Pirogov.²

¹ From 1856, N.I. Pirogov was a trustee of the Odessa school district, and from 1858 to 1861, trustee of the Kiev school district. He was, of course, well aware of the surgical and scientific activities of Sklifosovsky.

² In 1870, N.I. Pirogov was invited on behalf of the International Red Cross to be a consultant surgeon during the Franco-Prussian war.

In 1871, Sklifosovsky was elected professor of the department of surgical pathology at the St. Petersburg Medical-Surgical Academy. During his first period living in St. Petersburg, Sklifosovsky participated in two wars: in 1876 he was sent to the Serbian-Ottoman War in Montenegro as a surgeon-consultant for the Red Cross, and in 1877 he saw service in the Russo-Turkish (Balkan) War, which saw more than 3,000 Russian doctors took part in. Together with Pirogov, the outstanding Russian surgeons E.I. Bogdanovsky, K.K. Reier and E. Bergman assisted the wounded on the front. Pirogov praised the work of Sklifosovsky in organizing surgical care on the battlefield [1]. By the end of the 1870s, Sklifosovsky had become one of the most renowned Russian scientists and surgeons. One of the most fruitful times of his life and work soon followed -a 14-year period of work at the Faculty of Medicine of the IMU (1880 - 1893).

In January 1880, on Professor I.N. Novatsky's proposal, the IMU board unanimously elected 44-year-old Sklifosovsky as professor of the department of surgery and director of the surgical clinic. At the same time he was appointed consultant to the Moscow Military Hospital. Two years later he took another important position – dean of the Faculty of Medicine [4].

Sklifosovsky saw the existing shortcomings in the teaching of practical subjects and tried to compensate for them, demonstrating to students the methodology and technique for carrying out the most complex operations as well as multiple surgical procedures [1]. According to his contemporaries, Sklifosovsky had perfectly mastered surgical techniques and was always looking for the most reliable and efficient way to reach an afflicted organ, helped by his constant practice in the dissection room [5]. Sklifosovsky talked about the need for mandatory post-graduate training of young doctors in major university hospitals and was a staunch supporter of women's medical education in Russia [3]. Sklifosovsky enthusiastically passed on his experience and knowledge to numerous students. Under his leadership, the IMU faculty surgical clinic located in an old building on Rozhdestvenka Street soon became one of the best educational, scientificresearch and medical institutions in Russia. This scientific school produced the following eminent professors and practicing surgeons: I.K. Spizharny, I.D. Sarychev, M.P. Yakovlev, V.I. Dobrotvorsky, V.A. Krasintsev and others. However, Sklifosovsky believed that in order to better educate students and doctors in the development of new methods of diagnosis, treatment and disease prevention, the university should have its own strong teaching and clinical base. The first IMU clinic opened in 1805–1806, in a hospital on Nikitskaya Street. It consisted

in a hospital on Nikitskaya Street. It consisted of three institutes: surgical, clinical and obstetrics. In 1845, as part of the university, a faculty clinic was established in the Novo-Yekaterininskaya Hospital. It consisted of three divisions (therapeutic, surgical and obstetric) and a hospital division, which included two branches (therapeutic and surgical). An ophthalmopathy hospital clinic was created at the Moscow Eye Hospital. In 1861, in order to improve the educational process, IMU Professor A.I. Polunin proposed to expand the IMU clinical base to 1,000-1,200 beds and concentrate it in one or two city hospitals, but this project was not implemented. The charter of 1863 provided for universities to open new clinics at their own expense. Professor G.A. Zakharin began this process at the IMU's Faculty of Medicine – in 1866 he organized a children's clinic with 11 beds on the foundations of the faculty therapeutic clinic. In 1869, he created a clinic for nervous system diseases with 20 beds, in 1873 - 1874 - a gynecological clinic with four beds and a general diagnosis and therapy clinic with 16 beds. In 1873, Professor Novatsky proposed selling the building and the land on Rozhdestvenka, inherited by the IMU from the Medical-Surgical Academy, which was abolished in 1845, and to use the proceeds to build an 800-bed hospital for housing the university clinics. However, at first this proposal was not supported by the IMU council. By the early 1880s, the number of students enrolled in the Faculty of Medicine at the IMU had almost doubled compared to the 1860s, while at the same time, the university's material and technical resources had significantly diminished. This forced the IMU council to not only revisit Novatsky's project, but also to begin to seek further resources to expand the clinics. Moscow merchants, many of whom were traditionally



Fig. 2. Devichye Pole map. Photo from the B.V. Petrovsky Russian Research Center of Surgery Museum's collection.

engaged in charity, helped solve the problem of a lack of money for the construction of new buildings. In 1882, E.V. Paskhalov wished to contribute to the construction of obstetric clinics and V.A. Morozov gave the university a piece of land and money for the construction of a psychiatric clinic [6-10].

In the spring of 1883, IMU trustee P.A. Kapnist asked the Ministry of Education for permission to sell the land and building at Rozhdestvenka and this request was granted. Also, Kapnist sent a petition to the Moscow City Duma, with a request for the allocation of land for the construction of new university clinics. In 1883, Sklifosovsky headed a special commission that developed and presented in the autumn of the same year its recommendations to the university council for the construction of a clinical medicine campus. In November 1883. the project was approved by the IMU's council and board. In December 1884, the campus' construction commission sent professors F.F. Erisman and V.F. Snegirev together with

IMU architect K.M. Bykovsky³ to Europe to study the current state of hospital affairs. Later, this commission developed the principles that formed the basis of the construction project for the clinical campus and each of its buildings. The IMU board actively addressed the issues for the implementation of the project with the Ministry of Education, the Moscow City Duma and the city council [1, 3].

In autumn 1884, the Moscow City Duma decided to donate to the university an area of 40,000 square Russian fathoms (18 hectares) near Devichye Pole (Fig. 2), provided that the university clinics were to be built over the next five years, with a total number of beds not less 600, some of which were to function during university vacation time. Land donated by V.A. Morozova

³ K.M. Bykovsky was the son of architect M.D. Bykovsky. In 1859–1865, he studied at the Imperial Arts Academy in N.L. Benois' architectural class. From 1867, Bykovsky was architect for the Ministry of Internal Affairs and in 1883–1897 he was chief architect for the IMU.



Fig. 3. The university clinics at Devichye Pole (view of Bolshaya Tsaritsynskaya street from the city center). Photo from the B.V. Petrovsky Russian Research Center of Surgery Museum's collection.

and L.N. Tolstoy were adjoined to the large tracts allotted by the city. In February 1886, the commission presented its final draft for the clinical medicine campus to the IMU board, and in March of the same year the Ministry of Education granted permission to the university to accept the land at Devichye Pole donated by the Moscow City Duma. The state council decided to allocate 2.15 million rubles for its construction and June 9th, 1886, the decision was approved by the Emperor Alexander III. In June 1887, the Minister of Education appointed a special construction committee headed by Moscow school district trustee Kapnist, and on September 21, 1887, a ground breaking ceremony was held for the Bykovsky-designed hospital complex, which was huge for its time [6, 8-10]. According to Bykovsky's plan, the eastern side of Devichye Pole was assigned to clinics and shelters, funded mainly by private donors and the western side was allocated for a university clinic, designed in a unified style of low-key late eclecticism based on classicism. As a result, two new straight streets were built at Devichye Pole (Fig. 3.), running north-south from the Garden Ring to the Novodevichy Monastery – Bolshaya Tsaritsynskaya and Malaya Tsaritsynskaya streets (subsequently renamed Bolshaya and Malaya Pirogovskaya streets) [3].

Using his extensive medical and public authority, Sklifosovsky collected additional

large donations from Moscow merchants to build the clinical campus, and also enlisted the personal support of the Minister of Finance of the Russian Empire S.Y. Witte and other prominent government representatives [3].

In January 1887, the first two buildings, construction of which had begun in 1885 on the basis of private donations, were ready for use. They housed psychiatric and obstetric clinics.⁴ In October 1890, the construction of several of the campus' buildings was completed. Therapeutic, surgical, nervous system diseases and children's clinics, as well as an institute of pathological anatomy and an institute of general pathology, pharmacology and hygiene began to operate in the new buildings. By the end of 1892, clinics for hospital therapy, hospital surgery, propaedeutics of internal diseases and eye disease began to operate. The last clinics to open were the general clinical outpatient clinic and the ear, nose and throat clinic in 1896. By 1897 the clinical medicine campus was completely built. A total of 13 beautiful and spacious buildings were constructed, housing 15 clinics with 710 beds, six teaching and research institutes and a dispensary. Several buildings were built at the expense of Moscow merchants: M.A. Khludov funded the construction of the

⁴Numerous clinical medicine campus buildings were designed by Moscow architects – I.P. Zalesky, V.K. Kromaldy, R.I. Klein, A.N. Knabe, A.F. Meisner and M.I. Nikiforov.

children's clinic, G.G. Solodovnikov funded the clinic of skin and venereal diseases, Y.I. Bazanov funded the clinic of ear, nose and throat diseases, P.G. Shelaputin funded the gynecological institute and V.A. Alexeeva – the general outpatient clinic [8–10].

In designing the buildings for the clinical medicine campus, IMU chief architect Bykovsky took into account all the latest technological advances of the time: the buildings had warm air heating and forced ventilation, and a large reserve of space was set aside for new offices. All these innovations were implemented during construction. Each clinic, with the exception of the patients' ward, had classrooms for students, a museum and a library. The buildings' upper floors were intended for medical interns and nurses, who lived at the clinic and provided roundthe-clock surveillance and care. Auditoriums with capacity for up to 150-200 students were arranged in a semicircular space providing good viewing angles for observing patients as well as good acoustics. Scientific advances in the field of purulent infection prevention were taken into account in the design of the surgical clinics. Operating rooms were fitted out and equipped to perform procedures under aseptic and antiseptic conditions [11].

Sklifosovsky did not have long to enjoy the fruits of this titanic work: in 1893 he was appointed director of the Clinical (Yeleninsky) Institute for Advanced Medical Studies in St. Petersburg, which was the last period of his active surgical, scientific, educational and public activities. Considering it his duty in every way possible to promote the education of Russian surgeons, Sklifosovsky made an enormous contribution to the expansion and development of the Yeleninsky Institute [11].

Sklifosovsky played a huge role in the creation of the clinical medicine campus at Deviche Pole [5] (Fig. 4). His distinct managerial talent also manifested itself in the preparation and holding of the 12th Moscow International Congress of Physicians, attended by more than 10,000 delegates from around the world. Participants of the congress included the world-renowned scientists R. Virchow, E. Doyen, E. Kocher and H. Kummell. In August 1897, as chairman of the congress, Sklifosovsky proudly showed the clinical medicine campus at Devichye Pole to the attendees: at the time it was the best European university hospital complex [1, 3, 9].

Sklifosovsky was not only a role model for students, he enjoyed enormous prestige among the medical community. He was the initiator and chairman of the Pirogov congresses that brought together all of Russia's medical workforce, one of the founders of the Russian congresses of surgeons and chairman of the first congress (1900).

Sklifosovsky did much to perpetuate the legacy of the great Pirogov. He initiated the honouring of Pirogov on the occasion of the 50th anniversary of his scientific activity in 1881. Sklifosovsky received permission from Emperor Alexander III



Fig. 4. General view of the clinical medicine campus at Devichye Pole from Novodevichy Convent. Photo from the B.V. Petrovsky Russian Research Center of Surgery Museum's collection.

for the construction of a monument to Pirogov, the first Russian monument to a medical scientist. Funds for the monument were collected by doctors from across the country. At the unveiling of the monument on August 3, 1897, on the occasion of the 12th International Congress of Physicians, Sklifosovsky gave a brilliant speech. He said: "The people who have Pirogov have the right to be proud ..." [1].

In 1900, Sklifosovsky suffered a stroke. He spent the next four years at his estate near at Yakovets near Poltava, where he survived several more strokes. In the morning of November 30, 1904, Sklifosovsky passed away. On that day, the 5th Congress of Russian Surgeons commenced. Its chairman, Professor F.A. Rein said: "... One of our nation's most eminent surgeons has died, whose name we are accustomed to speaking in the same breath as that of the great Pirogov" [3]. Sklifosovsky was buried at Yakovets, in the family vault.

During the Civil War of 1918–1922, Sklifosovsky's burial place was destroyed. Only in 1947 were the monuments returned to their place. In 1966 a park was founded nearby and in 1975 a black granite memorial stone was placed on Sklifosovsky's grave with the inscription "Sacrifice oneself in the service of others". In 1979, a monument to the scientist was erected in front of N.V. Sklifosovsky Poltava Regional Hospital's main building, the unveiling of which was attended by the Minister of Health of the USSR B.V. Petrovsky, the Ukrainian Soviet Socialist Republic Minister of Health A.B. Romanenko and many prominent scientists and public representatives [3].

In early 2008, through the efforts of N.V. Dubinsky, the chief surgeon of the Poltava region, the reconstruction of the Sklifosovsky's

burial place commenced. The unveiling of the memorial and the consecration of grave was held on June 6, 2009. A stone wall was installed beside the grave with Sklifosovsky's words engraved: "People who know how to honor the memory of their great ancestors have the right to look calmly to the future".

Sklifosovsky, working at the IMU for 14 years, initiated the establishment of its scientific school, one of the most advanced and largest in Russia, representatives of which have made huge contributions to the development of domestic surgery. This was the most prominent period in the life of the remarkable surgeon, scientist and teacher. It was characterized by great creative enthusiasm but placed a great mental and physical strain on Sklifosovsky. According to V.I. Razumovsky, "If N.I. Pirogov was the first major Russian representative of scientific medicine and the first public-figure physician, and S.P. Botkin was his successor, then Nikolay Sklifosovsky was a worthy and major successor to their work" [5].

However, scientific historians wonder why the clinical medicine campus at Devichye Pole, built not only on the initiative but also with the direct and active participation of Sklifosovsky, was not bestowed with his name, but the name of I.M. Sechenov, who did not play any significant role in it. For many years, the First Moscow State Medical University has borne Sechenov's name with honor, and a monument to the outstanding Russian physiologist adorns Bolshaya Pokrovskaya street, while at the same time none of the historical buildings of the clinical medicine campus boast even a modest memorial plaque dedicated to Sklifosovsky. We can only hope that this historical injustice will soon be righted.

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About the authors

Svetlana Aleksandrovna Kabanova – Doctor of Medical Sciences, Doctor of Medical Sciences, Deputy Director for Scientific and Organizational Work at the N.V. Sklifosovsky Institute of Emergency Care (Moscow).

Pavel Mayorovich Bogopolsky – Doctor of Medical Sciences, Senior Researcher at the Department of the Scientific Programs and Staff Training, B.V. Petrovsky National Research Center of Surgery (Moscow).