



More than a century of pathology at the Military Medical Academy: from the prosector's department to the academic medical specialty

Više od veka patologije na Vojnomedicinskoj akademiji: od prosekture do akademske medicinske grane

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Important years in the development of pathology at the Military Medical Academy (MMA) were shaped by global historical events, especially in the turbulent Balkans. The period from 1904 to 2024 in pathology at the MMA is not only chronologically impressive. Many individual and collective professional destinies are woven into pathology's scientific research mission, which today bridges fundamental sciences and clinical medicine. This editorial serves as a humble tribute to all the educators who laid the foundations and inspired numerous generations of pathologists over more than a century of the MMA's history. The pathology service at the MMA was organized as a Prosector's Service, Center, Department, and Institute. For the longest period, it has been mostly recognized as the core component of the Institute of Pathology and Forensic Medicine (IPFM) at the MMA^{1, 2}. While presenting historically significant data in parts of the text that occasionally resemble a sentimental journey through pathology, I was guided by the wisdom of Pythagoras (6th century BC): "Do not talk a little about a lot of topics. Talk a lot about a few." In this endeavor, I was aided by decades of experience and motivation as a pathologist and professor, as well as by my long-term leadership of the IPFM.

Pathology of the Military Medical Academy: from Prosector's Office to Institute 1904–1949

The development of pathology at the MMA overlaps with the worldwide acceptance and reconceptualization of pathology as a distinct medical specialty. It was only in the 1940s that pathology evolved into more than a medical practice in both Europe and North America³. In preserved

historical articles and rare publications in national journals, the beginnings of pathology and forensic medicine at the present MMA are most often linked to 1904 and the formation of the Prosector of the Main Military Hospital (MMH) in Belgrade. The prosector, which in Latin means to cut off or to divide, refers to a pathological-anatomical department where autopsies are performed. The first medical examiners – prosectors at the Prosector's Department were not pathologists or forensic medicine specialists, but rather physicians from the clinical wards where the patients had passed away. In a country exhausted by wars and conflicts from 1904 to 1920, the MMA, as well as the entire healthcare system in Serbia, was still waiting for its first specialists in pathology^{4–6}. With the establishment of the Faculty of Medicine at the University of Belgrade in 1920 and its Institute of Pathology, prominent pathologists and professors of the Faculty of Medicine in Belgrade were engaged as part-time prosectors at the military hospital and within the army. The most famous among them were Professor Đorđe Joannović, Academician, Professor Ksenofor Šahović, and Professor Živojin Ignjačev. Professor Đorđe Joannović was the first pathologist in both the civilian and military health services of Serbia to perform autopsies and the first head of the Prosector's Department at the MMH from 1921 to 1932⁴. In some works, the year 1922 is linked to the beginnings of pathology at the MMA precisely because of a significant improvement of the Prosector's Department. The protocol of the very first official autopsy at the MMH is preserved within the IPFM Archive; it is signed by Professor Joannović and other professors from the Faculty of Medicine of the University of Belgrade^{4–6}. Colonel

Roman Fedina, Doctor of Medicine (MD), was officially the first head of the MMH Prosecutor's Department from 1935 to 1940⁴. Following the end of the Second World War, pathology at the MMA became recognized as pathological anatomy, driven by a steadily increasing volume of clinical autopsies. The histopathologic aspect of the work, involving biopsies, operative tissue, and organ samples, became notably more prominent when, in 1949, the MMH was renamed the MMA.

Heads of the Institute of Pathology and Forensic Medicine at the Military Medical Academy: pathologists and forensic medicine specialists (1949–2024)

In this period, there were a total of 10 heads: 6 pathologists and 4 forensic medicine specialists managed the IPFM (including temporary renamings of the Institute to Department and Center). From 1945 to 1957, the head of the Prosecutor's Department and then the first head of the IPFM was Colonel Professor of Forensic Medicine Miodrag Bučić, MD, Doctor of Philosophy (PhD). From 1957 to 1975, the head of the IPFM was Colonel Professor of Pathology Konstantin Brankovan, MD, PhD. Forensic medicine specialist Colonel Professor Aleksandar Ćeramilac, MD, PhD, managed the IPFM from 1975 to 1986. Colonel Professor of Pathology Nikola Bojanić, MD, PhD, led the IPFM from 1986 to 1990. Forensic medicine specialist Colonel Professor Petar Spasić, MD, PhD, was the director of the IPFM from 1990 to 1999, and then from 1999 to 2000, the position was held by pathologist Colonel Professor Vujadin Tatić, MD, PhD. Forensic medicine specialist Major General Assistant Professor Zoran Stanković, MD, PhD, was the head in 2000. Pathologist Colonel Professor Jovan Dimitrijević, MD, PhD, was the head from 2002 to 2005, and pathologist Colonel Professor Srbislav Ilić, MD, PhD, was the director from 2005 to the end of 2007. From 2008 to 2024, the head of the IPFM was the first civilian pathologist, Professor Snežana Cerović, MD, PhD. In 2024, as an Assistant Professor, Lieutenant Colonel, specialist of forensic medicine, Ivan Aleksić, MD, PhD, was appointed head of the IPFM.

Milestones at the Military Medical Academy pathology: technological and laboratory innovations, popularization of the profession (1957–2024)

Pathology institutions worldwide and leading international pathologists have always been our role models. For decades, a special place belonged to the leading institution in global pathology: the Armed Forces Institute of Pathology (AFIP) of the United States of America – USA⁷. Following a study visit to this largest pathology institution, Professor Brankovan improved histopathologic diagnostics and implemented administrative and spatial frameworks inspired by the AFIP model. In 1957, IPFM was the first in the country (former Yugoslavia) to introduce the intraoperative or *ex tempore* method. At the end of 1989,

immunohistochemical and enzyme-chemical analyses, as well as a computer program for archiving biopsy registries and autopsy documentation, were introduced. Furthermore, a strong institutional connection was forged between the IPFM pathology service and the clinics and institutes of the MMA, as well as with other pathology institutions nationwide and internationally. We gained a wealth of knowledge in pathology not only through the implementation of modern diagnostic procedures and literature updates, but also through invaluable master lectures by leading visiting pathologists. In the period 1986–1989, the IPFM hosted the largest number of internal seminars, clinical-pathological confrontations, and thanatological analyses in its history. Unforgettable lectures were delivered by Professor Vojislav Vuzevski (head of the Department of Diagnostic Electron Microscopy at the Institute of Clinical Pathology of the Erasmus University in Rotterdam, Netherlands) and Professor Dojčin Dojčinov. "I learned the most by teaching others" – this guiding philosophy encapsulates the professional creed of Professor Dojčinov, who selflessly imparted his knowledge to students and aspiring pathologists at the Faculties of Medicine in Niš and Belgrade, as well as to pathologists at the IPFM. In 1971, electron microscopy was introduced at the IPFM, followed by telepathology at the end of the last century^{8, 9}. The Institute's cytology laboratory was established in 1990, while cytogenetic analysis and human tissue culture techniques were introduced in the last decade of the 20th century¹.

Military Medical Academy pathology as an academic medical branch: student and resident perspectives (2009–2024)

The number of pathologists and residents from other healthcare institutions who completed their specialization, or part of it, at the IPFM over the past decades, as well as the number of master's and doctoral theses based on the results of histopathologic diagnostics, is immeasurable. Two golden periods when 13–17 pathology residents were trained at the IPFM at the same time occurred between 1986 and 1989, and from 2008 to 2017. Since the establishment of the integrated academic studies of medicine at the MMA of the University of Defense in 2009, and later the Faculty of Medicine of the MMA in 2011, pathology has become a true academic branch, as in other medical faculties in the country. The IPFM recorded by far the largest number of PhDs across various fields: pathology, molecular biology, and forensic medicine, totaling 13 between 2008 and 2024. Although very low, the number of pathology teachers during the same period ranged from 1 to 3: Professor Snežana Cerović, Assistant Professor Vesna Škuletić, and Lieutenant Colonel Assistant Professor Božidar Kovačević. Due to his retirement, Lieutenant Colonel Assistant Professor Miloš Kostov, Head of the Department of Pathology at the Niš Military Hospital, briefly participated in classes at the Faculty of Medicine of the MMA. Nevertheless, we managed to establish our optimal teaching, scientific, and research portfolio and contributed to the spread of medical knowledge¹⁰. A total of 221



Fig. 1 – The sixth class of the Faculty of Medicine of the Military Medical Academy cadets at the Institute of Pathology and Forensic Medicine laboratory (personal photo).

cadets/students completed their education between 2009 and 2024¹¹. Although their medical education in pathology was extensive, sometimes turbulent, it remained consistently interactive and engaging. The IPFM pathology faculty, as well as the teaching program, were rated with the highest marks by the Faculty of Medicine of the MMA cadets and students, confirming that their understanding of medicine had become increasingly comprehensive. We deeply appreciate their ambition and cherish their smiles after our shared successes (Figure 1).

Four of our cadets chose pathology as their specialization, two of whom are currently in their final year of PhD studies. A great success for us as educators is the scientific and research “awakening” of future pathologists – challenging, yet beautiful and promising in its complexity and perspective. This represents not only the pride and satisfaction we share, but also an aspiration toward professional excellence as the basis for the continued progress of pathology at the MMA.

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Received on July 30, 2026
Accepted on August 5, 2026
Online First August 2026