

## Pathology in Turkey: A historical survey

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In this monograph, we reviewed the history of pathology in Turkey since the era of Ottomans and tried to sum up the pathologists who took part in this survey.

**Keywords:** History, pathology, Turkey

During Ottoman Empire in 1827, Sultan Mahmut II had founded Military School of Medicine & Surgery in İstanbul. It was the first medical school in modern terms at those times. Although the teaching was initially in French, the language then changed to Turkish in 1841. Medicine in Ottomans had undergone an enormous evaluation, after Dr. Bernard from Vienna School of Medicine became the director of the school. A greater degree of knowledge on gross anatomy and anatomic pathology had been achieved following permission given by Sultan Abdulmecid to necropsy in 1841. The first official permission for cadaver studies in Ottomans was given in 1842.

Pathology training in medical school was first begun with Ahmet Hilmi Paşa at the end of the 19<sup>th</sup> century. Kırımlı Aziz, Ohannes Tabibyan, Ahmet Ferit and Rıfat Hüsametdin Paşa were the other lecturers of pathology in medical school up to the beginning of 20<sup>th</sup> century.<sup>1–6</sup>

Hamdi Suat Aknar (1873–1936) was supervised to go to Germany by Dr. Robert Rieder for qualification in pathology after he graduated from Gülhane Military Academy of Medicine. He came back in 1904 and had worked for a long time in the field of pathology. He was an eminent scientist and investigator and had published many works in Turkish, German and French. He took part in the editorial board of “Acta Cancerologica” and founded “Turkish

Association of Cancer and Research”. He also established the first pathology museum with 1800 specimens at Gülhane Military Academy. He died because of tuberculosis and took his part in the history as the leader of pathology in Turkey. He was awarded by TÜBİTAK in 1974 due to his great contributions to pathology.<sup>1–5</sup>

Pathology in Turkey – as in most other European countries – has undergone a great evolution since the second world war. A group of German professors was invited to Turkey from Germany in 1933 by Mustafa Kemal Atatürk; founder of Republic of Turkey. Of those, there were a number of specialists such as Nissen in surgery, Schwartz and Oberndorfer in Pathology, Winterstein in Physiology, Frank in Internal Medicine, Max Clara in Embryology, and Stary in Biochemistry. These political refugees contributed a lot to found the University of İstanbul, previously called as “The House of Arts”, a modern contemporary university. At the beginning, they had lectured in German with simultaneous translation to Turkish. Later, the lectures were given in Turkish.

In the meantime, the teaching of pathology had been undertaken by two German professors; Prof. Siegfried Oberndorfer (1876–1944), and Prof. Phillip Schwartz (1894–1978). Prof. Oberndorfer was the first director of the newly organized “General and Experimental Pathology” and on the other hand Prof.

Schwartz was the head of the “Pathological Anatomy” in the pathology department of the Medical Faculty of Istanbul University. They both distinguished themselves by giving excellent lectures and writing the textbooks of pathology in Turkish.<sup>1-4,7</sup> Prof. Schwartz not only had organized the microscopical examinations but also focused on performing autopsies and organizing the pathology archive. He trained many qualified pathologists like Besim Turhan, Kemal Akguder, Ihsan Şükru Aksel, Süreyya Tanay, Perihan Çambel, Talia Bali Aykan, Bedrettin Pars and Münevver Yenerman who had worked hard in this field for long years.<sup>1</sup>

Prof. Dr. Siegfried Oberndorfer (1876–1944) had worked in Cancer Research Institute for 11 years. He was the author of many scientific papers and a general pathology textbook. Sedat Tavas, Üveys Maskar, Osman Saka, Sati Eser were the qualified pathologists trained by him. He died of a mediastinal tumor in 1944.<sup>1-3</sup>

Prof. Dr. Kamile Şevki (1906–1987) was the first female professor in pathology and one of the assistants of Hamdi Suat Aknar. She worked with Prof. Robert Rossle in Berlin University for two years and appointed to Istanbul University as the first female pathologist when she came back to Turkey. She was appointed to Ankara Numune Hospital and founded the pathology department. This appointment lasted for 10 years. Afterwards she founded Department of Histology and Embriology in Ankara University Medical Faculty. Prof. Sevki had worked on “lymphogranulomatosis” and found a histochemical technique to stain the granules of chromaffin cells in the adrenal medulla which was later called as “Sevki method”.<sup>2,3</sup>

Prof. F. Perihan Çambel (1909–1987), had done her pathology training at Pathology Department of Istanbul University, Medical Faculty. Carcinogenesis and biology of mast cells were the the main topics that she was interested in. She had worked as the chief of the Pathology Laboratory of Ankara Numune Hospital between the years of 1946 and 1963.<sup>1,5</sup>

Prof. Besim Turhan (1896–1973) had been the head of the Pathology Department in Istanbul University after Schwartz moved to USA. He had

written many Pathology textbooks about general pathology, autopsy and pathology of systems.<sup>1</sup>

Prof. Necati Eranlı (1902–1989), who had finished his pathology training at Gülhane Military School, founded the Pathology Department of Ankara University Medical School. He is the author of two books about macroscopy and the pathology of urinary system.<sup>1</sup>

Prof. Süreyya Tanay (1901–1979), had done pathology training at Military School after graduated from Istanbul University. He was one of the leading persons who had founded the Pathology Department of Ankara University Medical Faculty in 1948. He has three books on general pathology and pathology of heart diseases.<sup>1-4</sup>

Prof. Talia Balı Aykan (1918–2003) graduated from Istanbul University Medical Faculty and completed her pathology training at the pathology department of the same university in 1943. She had been one of the assistants of Schwartz. She had completed her studies in USA working with Prof. J. Furth and Prof. H. Goldblatt. Upon returning to Istanbul, she continued her works on experimental pathology and founded an experimental pathology laboratory and she brought the experimental animals from USA on her return. Summing up the valued scientific opus of Prof. Aykan, it is worth commenting on her series of experimental investigations on brain tumors, rabies, cystosarcoma phylloides and fibroadenoma. She was appointed with Prof. Melih Tahsinoglu to found pathology department in Cerrahpaşa Medical Faculty in 1967. She is the author of three books about autopsy, kidney diseases and pathology of tumors.<sup>1,2,8</sup>

Prof. Münevver Yenerman has graduated from Istanbul University Medical Faculty in 1942 and finished pathology training in 1945. Between the years of 1951 and 1954, she worked with Prof. Gomori in USA about histochemistry and made studies on diabetes mellitus. Upon her return, she was appointed to Pathology Department in Istanbul University and holded the chair position of pathology department after the retirement of Dr.Turhan. She has published two books on General Pathology.<sup>1</sup>

Prof. Muharrem Köksal (1912–2004) graduated from Gülhane Military Medical School in 1938 and

completed pathology training at the same School in 1945. He was appointed as an associated professor to the Pathology Department of Ankara University. He went to England and worked about cell culture and mast cell granules. Back to Turkey, he had founded the Pathology Department of Hacettepe University Medical Faculty in 1963. He had been the rector of Ataturk University (Erzurum) for five months in 1964. He had taken an important role in the discipline of pathology during his life and trained so many qualified pathologists. He had written textbooks about oncology and pathology of gastrointestinal system.<sup>9</sup>

With the explosive expansion of new Medical Faculties throughout the country, many new pathology departments were founded. Some of those were headed by numerous qualified pathologists such as Prof. Necati Eranil at the Pathology Department of Ankara University Medical Faculty, Prof. Kemal Akgüder at the Pathology Department of Aegean Medical Faculty in 1956, Prof. Muharrem Köksal at the Pathology Department of Hacettepe Medical Faculty in 1963, Prof. Talia Balı Aykan and Prof. Dr. Melih Tahsinoğlu at the Pathology Department of Cerrahpaşa Medical Faculty in 1967; by Prof. Arif Hikmet Yüksel at the Pathology Department of Çukurova University Medical Faculty in 1972. Table 1 demonstrates the history of foundation of some pathology departments. To the best of our knowledge, currently pathology departments in Turkey locate at 2 military, 40 government and 5 foundation medical faculties and at many teaching hospitals affiliated to the Ministry of Health with Pathology Departments and the overall number of pathologists is around 1500.

It is obvious that the vigor of pathology in Turkey is demonstrated by the strength of the pathology societies, the potent influence of their activities, and the size of the attendance at their meetings. Regionally, there are four major general pathology societies: Turkish Society of Pathology, Ankara Pathology Society, Cukurova Pathology Society and Aegean Pathology Society. In addition, two subspeciality societies in pathology exist: Turkish Society of Cytopathology and Pediatric and Perinatal Pathology Society.

During the period of last 164 years, the Pathology in Turkey has achieved tremendous qualitative and

quantitative revolutions. Turkish pathologists having wide-vision, universal and scientific features on education, research and practical expertise in specific areas have been working in different fields of pathology.

Today, the contemporary level of pathology that we have reached, is the result of the great studies of the leaders in the development discipline of pathology and the mile-stone scientists of the Republic of Türkiye. We commemorate all pathologists with respect for their contributions to pathology in Turkey. Their great creations and memories will be living with us forever.

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**Table 1.** The founders and the foundation years of the Pathology departments of some of the University and Teaching Hospitals.

Pathology Departments	Founders	Year
Gülhane Military Medical School	Dr. Hamdi Suat Aknar	1904
Istanbul University, Medical Faculty	Dr. Philipp Schwartz Dr. Siegfried Oberndorfer	1933
Ankara Numune Hospital	Dr. Kamile Şevki	1935
Ankara University, Medical Faculty	Dr. Necati Eranıl, Dr. Süreyya Tanay	1948
Ege University, Medical Faculty	Dr. Kemaleddin Akgüder	1955
Oncology Hospital, Ankara	Dr. Necati Eranıl	1957
Hacettepe University, Medical Faculty	Dr. Muharrem Köksal	1963
Atatürk University, Medical Faculty	Dr. Recai İlçayto	1964
İzmir Atatürk Teaching and Research Hospital, İzmir	Dr. Ayhan Kara	1964
İstanbul University, Cerrahpaşa Medical Faculty	Dr. Talia Balı Aykan, Dr. Melih Tahsinoğlu	1967
Çukurova University, Medical Faculty	Dr. Arif Hikmet Yüksel	1972
Dicle University, Medical Faculty	Dr. Recai İlçayto	1973
SSK Tepecik Hospital, İzmir	Dr. Turan Genç	1974
Erciyes University, Medical School	Dr. Bedri Kandemir, Dr. Mehmet Külahçı	1975
Okmeydanı SSK, Istanbul	Dr. Türkan Özgönül	1975
Uludağ University, Medical Faculty	Dr. Oktan Erol, Dr. Ali Rıza Karaca	1976
Akdeniz University, Medical Faculty	Dr. Kadri Bacacı	1976
Cumhuriyet University, Medical Faculty	Dr. Şerefettin Canda, Dr. Tülay Canda	1977
Osmangazi University, Medical Faculty	Dr. Kemal Bayrı	1977
19 Mayıs University, Medical Faculty	Dr. Yüksel Alvr	1979
Dokuz Eylül University, Medical Faculty	Dr. Şerefettin Canda, Dr. Tülay Canda	1979
Gazi University, Medical Faculty	Dr. Cansen Çakalır	1980
Taksim Hospital, Istanbul	Dr. Bilgin Aksoy	1984
Marmara University, Medical Faculty	Dr. Ümit İnce	1986
Selçuk University, Medical Faculty	Dr. Osman Yılmaz	1986
Gaziantep University, Medical Faculty	Dr. Coşkun Özseraç	1987
Trakya University, Medical Faculty	Dr. Kemal Kutlu	1983
Karadeniz Teknik University, Medical Faculty	Dr. Yavuz Özoran	1983
Fırat University, Medical School	Dr. Ayşe Zuhul Yumbul	1988
İnönü University, Medical Faculty	Dr. Hüseyin Üstün	1988
Behcet Uz Hospital, Izmir	Dr. Necmettin Ozdemir	1988
Kartal Government Hospital, Istanbul	Dr. Nusret Erdogan	1989
100.Yıl University, Medical Faculty	Dr. Serdar Uğraş, Dr. Hüsniye Dilek Dr. Emel Akman	1994
Harran University, Medical Faculty	Dr. Muharrem Bitiren	1995
Celal Bayar University, Medical Faculty	Dr. Saliha Soydan	1995
Kocaeli University, Medical Faculty	Dr. Cengiz Erçin	1995
Pamukkale University, Medical Faculty	Dr. Ender Düzcan, Dr. Neşe (Çallı) Demirkan	1995
Adnan Menderes University, Medical Faculty	Dr. Sema Hilal Koral	1995
Süleyman Demirel University, Medical Faculty	Dr. Gülsen Aydın	1996
Mersin University, Medical Faculty	Dr. Ayşe Polat, Dr. Özlem Aydın	1998
Kırıkkale University, Medical Faculty	Dr. Önder Bozdoğan	1998
Abant İzzet Baysal University, Düzce Medical Faculty	Dr. Murat Alper	1998
Sütçü İmam University, Medical Faculty	Dr. Sevgi Bakariş	1999
Karaelmas University, Medical Faculty	Dr. Gamze Numanoğlu	2000
Abant İzzet Baysal University, İzzet Baysal Medical Faculty	Dr. Çetin Boran	2002
Mustafa Kemal University, Medical Faculty	Dr. Esin Atik	2003