

Turkish Anatomy Education From The Foundation of the First Modern Medical School to Today *

Enis ULUCAM MD., PhD, Nilufer GOKCE, Recep MESUT, MD.

* Trakya University, Medical Faculty, Department of Anatomy 22030/ Edirne, Turkey.
e-mail: eulucam@trakya.edu.tr

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Summary

Anatomy education commenced as a distinct course at “Tibhane-i ve Cerrahane-i Amire”, the first medical school, founded by Sultan Mahmut II in March 14th, 1827. It is possible to explain anatomy education in three periods.

1) Pre-dissection Period (1827-1841): In this period, anatomy education was given theoretically. Anatomical constitutions except bones were being displayed on charts and models.

2) Unmedicated cadaver period (1841-1908): After Sultan Abdülmecid had signed the imperial decree allowing dissections with the purpose of education; practical applications on cadavers began initially. Corpses of slaves and captives were used as cadavers for dissection. These corpses had no relations and dissections were made until they began to decay. For this reason, large scale of anatomy education was given theoretically again

3) Medicated cadaver period (1908-2003): In anatomy education by using the method of giving chemical substance through vein, cadavers began to be used initially for a long time without decay in this period. So, scale of practice in anatomy education increased considerably.

After 1945, the anatomy education has demonstrated a rapid development quantitatively. Today, 41 anatomy departments continue their activities.

Key Words: Anatomy, Education.

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During the Ottoman time anatomy education was done in a scholastic frame. Medical education was instructed in master-apprentice way and anatomy was explained theoretically with other courses. Sultan Mahmut II founded the first medical school, “Tibhane-i Cerrahane-i Amire (March 14th, 1827). Thus anatomy education commenced as a distinct course. With the appointment of instructors western style anatomy education was initiated. So it is possible to explain anatomy education in three periods (1-4).

1) Pre-dissection Period (1827-1841): In this period, anatomy was instructed theoretically. **Kanun** by Ibn Sina, **Tesrih-i Ebdan ve Tercüman-ı Kibale-**

i Feylesufan by Itaki and **Miratü’l Ebdan fi Tesrih-i Aza-ül İnsan** by Sanizade were the books taught in the medical school. Anatomical constitutions except bones were being displayed on charts and models, which were brought from Europe. Some knowledge on bones was taught by using skeleton models and bones taken out from graves. This can be regarded as a practical application however, as it was not yet allowed to work on cadavers, it was not adequate to regard as a practical application. The anatomy course was taught in the second year of the Medical School. Students were sitting on rush mats while listening their instructors. According to the Prime Minister-ship Archives’ Documents, Osman Saib was the first anatomy teacher of pre-dissection period (death: 1863) (1,3). Osman Saib, who graduated from “**medrese**”, which was similar to faculty in Ottoman

education system, was also well-informed on mathematics. As a second person, Dr. Konstantin Karatodori (1802-1879) who educated in Europe also taught anatomy courses. In pre-dissection period, the attitude on anatomy education was not of the necessary importance. Since the Medical School could not reach to an expected quality of education, it was moved to another location and was called as “**Mekteb-i Tibbiye-i Shahane**” (1-3,5).

2) Unmedicated cadaver period (1841-1908):

Anatomy experts was appointed in this period from abroad. First one was Dr. Charles Ambroise Bernard from Vienna (1808-1844) (1-6). For a long time, until after the first three years from the foundation of Mekteb-i Tibbiye-i Shahane, it was not allowed to examine corpses because of bigotry caused partly from religion and ignorance. However, anatomy was a course that has to be learned by making applications of dissection on corpses. In order to search on natural location and organization of organs in human body dissection was of great importance. Dr. Bernard stated that the anatomy was the main course of medical education and it was necessary to search on cadavers in order to make anatomy lessons beneficial to the students. He made negotiations with the authorized people and the Sultan about this matter. First practical applications on cadavers began after Sultan Abdülmeçid had signed the imperial decree allowing dissections for the purpose of education (1841) (1-10). In order to select well-informed experts, an examination was arranged and Dr. Sigmund Spitzer (1813-1895), an anatomy assistant with the knowledge of dissection, was appointed for the practical applications. He was the first person who made the first dissection in our country. (1,2,3,5,9). Corpses of slaves and captives were used as cadavers for dissection. These corpses had no relatives. In this period, anatomy courses were taught for three years beginning from the second year of Medical School. It was not an obligation to attend dissections. Therefore, large scale of anatomy education was still given theoretically. In Medical School, education language was French and the books were brought from France. First anatomy books were written at that time. Generally these books were translations from foreign sources. In 1871, Dr. Hafiz Mehmet translated Bayle’s anatomy book from

French as “**Talim-üt Teshrih**”. This book was the third anatomy book published during the Ottoman period after the books of Itaki and Sanizade (1,2,4).

We have to mention about an article published in 1953 by Prof. Dr. Feridun Nafiz Uzluk on Turkish anatomy books. In his article, he mentioned about Hanif Zade Ibrahim Nihali who lived in 18th century, but whom we do not have enough information about his life and works. Uzluk has informed us that this person had written a Turkish anatomy book in the European style. There is no another information about that book (14).

Hristo Stombolski (1843-1932), an anatomy lecturer who was of Bulgarian origin, published an anatomy book named “Miftah-ı Teshrih” in 1874. The book was a translation of the anatomy book by Prof. Dr. Moose, lecturer in Paris Medical Faculty. Stombolski added a chapter with 93 pages named “**Lügat-ı Teshrih**” to the end of this book including many anatomy terms with Turkish equivalence (2,14). Afterwards, Dr. Hasan Mazhar Pasha (1845-1920) published the 5th Turkish anatomy book named “**İlmi Teshrihi Tasvifi**”. In 1908, Mazhar Pasha who translated many anatomy books wrote and published “**İlmi Teshrihi Topografi**”, which demonstrated the specification of topographic anatomy first time in Turkey. On the other hand, he had a great effort on teaching anatomy courses in Turkish rather than French in Medical School. He made a lot of contributions and studies on translating anatomy terminology into Turkish (1,2,3,14). Mazhar Pasha is considered to be the founder of the modern anatomy in Turkey.

At that time, an increase was observed in the number of anatomy teachers. Some of lecturers of anatomy gave courses during that period .Greek Dr. Paleog, Armenian Dr. Davut, Austrian Dr. Joseph Warthbichler (1817-1852), Greek Dr. Kalyas (death: 1885), Dr. Yakovaki Aristidi (1835-1900), Dr. Mehmet Rasim Pasha, Ismail Besim Pasha, Yusuf Rami (1856-1916), Hikmet Emin and Mehmet Tahir (1881-1940) (1,3).

Even it was late, modern methods and sources, especially cadavers, began to be used in anatomy education at that time. Furthermore, anatomy books translated into Turkish began to be written.

3) Medicated cadaver period (1908-2003): In this period, Anatomy education gained new dimensions. Some students were sent to the European countries. These students had an opportunity to study with famous anatomists of the time. They not only brought anatomy knowledge but also investigation and education methods when they returned to Turkey. One of them was Prof. Dr. Nurettin Ali Berkol. He offered the method of preserving cadavers in icehouses or giving chemical substance (formol) through vein for the first time in Turkey. Cadavers initially began to be used in anatomy education without decomposition with those methods. This practice became a turning point in anatomy education. Thus, scale of practice in anatomy education increased considerably (1,2,3,9,15). Prof. Dr. Berkol also provided important contributions to the establishment of today's modern dissection laboratories during the university reform. After Mazhar Pasha, Prof. Dr. Nurettin Ali Berkol and Prof. Dr. Zeki Zeren can be counted among founders of the modern anatomy in Turkey. His contribution on translation of the anatomy terminology into Turkish was important. He published "**Osmanlıca Anatomi Sözlüğü ve Türk Anatomi Terimleri**" in Latin-Turkish in 1946 (1,3,16).

Finding cadaver was a difficult problem in this period. And it is still a problem today. Therefore, anatomists tried to provide new approaches to anatomy education by closely following the new technological developments. As a result of the developments in computer and visualization techniques, variations came out on teaching methods. Anatomy subjects started to be explained visually via visualization techniques such as slides, data projectors and videos. Dissection laboratories also reached more modern configurations. In addition, some Turkish anatomy books that were not translated from other sources were written.

A second medical faculty was founded in Sam (Damascus) in 1903, but unfortunately this faculty couldn't have a chance for a long education term was closed in 1918 (17). In Damascus Medical School anatomy courses was taught by Ismail Hakkı. He translated an anatomy book called Leo Testut "Traite d'Anatomie Descriptive" from French into Turkish during those years. He came to Istanbul after Damascus Medical School had been closed.

Anatomy education demonstrated a rapid development quantitatively with the foundation of Ankara University, Faculty of Medicine in 1945. Ege University, Faculty of Medicine was founded as third faculty of medicine in Izmir. Today, 41 anatomy departments continue to their activities in Turkey. The number of instructors and lecturers in these departments has also gradually increased by the time.

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