

Development of Asepsis and Antisepsis in Turkey in the Nineteenth Century and its Importance from the Point of View of Turkish Medicine of Today and Future

19. YÜZYILDA TÜRKİYE'DE ASEPSİ VE ANTİSEPSİNİN GELİŞİMİ VE BUGÜNÜN VE GELECEĞİN TÜRK TIBBI AÇISINDAN ÖNEMİ

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Summary

Turks applied hygienic rules in their lifes, ever time. For example, to use clean towel and to wash the hands were very important in the old Turkish states such as Göktürks, Uygurs etc. So, they gave a great importance to asepsis and antisepsis. The contagion was known in the period of Ottoman – Empire. For example, the patients with leprosy were treated in the hospitals of leprosy. Turkish physicians also mentioned the causes of diseases and their contagious characteristics. Surgical operations were simple in Turkey until the nineteenth century Some solutions such as vinegar, wine were used for dressing of wounds. The nineteenth century was the modern century of Turks in the fields of anesthesia, asepsis and antisepsis. Antisepsis was provided with phenol and pomades with iodoform in the surgery. Both antisepsis and asepsis was applied with modern methods for the first time in 1884 – 1892. Aseptic period was seen in 1884 - 1894. Dr. Cemil Topuzlu Pasha was sent to Paris in order to learn modern antiseptic methods and new surgical methods and anesthetic applications in 1887 and returned to Turkey in 1890. He served as an operator in Haydarpasha Hospital in Istanbul and applied new methods of antisepsis. He disinfected wounds with phenol. Topuzlu Pasha became associate professor in Gülhane Medical School and founded a clinic with 50 beds. In 1892, he applied his operations with aseptic methods in 1894. He used rubber glove and cotton mask in his operations and used autoclave in the operating room. This period also is the third period of the development of surgery in Turkey. So, this period can be accepted as the beginning of modern surgery. In this paper, the development of asepsis and antisepsis in Turkey in the nineteenth century is stressed and its importance from the point of view of Turkish medicine of today and future is pointed out.

Key Words: History of medicine, Asepsis and antisepsis, The nineteenth century

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Özet

Türkler, yaşamlarında hijyenik kuralları uyguladılar. Örneğin, temiz havlu kullanmak ve elleri yıkamak, Göktürkler ve Uygurlar ve diğerleri gibi eski Türk devletlerinde çok önemliydi. Böylece asepsi ve antisepsiye büyük bir önem veriyorlardı. Bulaşma fikri Osmanlı İmparatorluğu döneminde biliniyordu. Örneğin, cüzzamlılar cüzzam hastanelerinde tedavi ediliyorlardı. Türk hekimleri hastalıkların nedenlerine ve onların bulaşıcı özelliklerine de değindiler. Cerrahi operasyonlar Türkiye'de 19. yüzyıla kadar basit uygulamalar şeklindeydi. Sirke, şarap gibi bazı solüsyonları yaraların pansumanında kullanıldılar. 19. Yüzyıl, anestezi, asepsi ve antisepsi alanında Türklerin modern yüzyılydı. Antisepsi cerrahide fenol ve iyodoformlu pomatlarla sağlanırdı. Modern antisepsi ve asepsi metodları ilk kez 1884 – 1892'de uygulandı. Aseptik dönem 1892 – 1894 'de görüldü. Dr. Cemil Topuzlu Paşa modern antiseptik metodları, yeni cerrahi uygulamaları ve anestetik metodları öğrenmek için 1887'de Paris'e gönderildi ve 1890'da Türkiye'ye döndü. Dr. Topuzlu İstanbul'da Haydarpasha Hastanesi'nde operatör olarak görev yaptı ve yeni antisepsi metodlarını uyguladı. Fenolle yaraları dezenfekte etti. Gülhane Tıp Okulu'nda doçent oldu ve 50 yataklı klinik kurdu. 1894'de operasyonlarını aseptik metodlarla uyguladı. Ayrıca, operasyonlarında lastik eldiven, pamuk maske ve otoklav kullandı. Bu dönem Türkiye'de cerrahinin gelişiminin üçüncü dönemidir ve modern cerrahinin başlangıcı olarak kabul edilebilir. Bu bildiride, Türkiye'de 19. Yüzyılda asepsi ve antisepsinin gelişimi belirtilir ve bugünün ve geleceğin Türk tıbbi açısından önemine değinilir.

Anahtar Kelimeler: Tıp tarihi, Asepsi ve antisepsi, 19. Yüzyıl

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Turks gave a great importance to cleanliness in their lifes. To use clean towels and to wash the hands was very important in the old Turkish states

such as Gokturks, Uygurs etc. The concept of contagion was known in the period of Ottoman Empire. For example, the patients with leprosy were

treated in the hospitals of leprosy called leproserium. Many Turkish physicians also mentioned the causes of diseases and their contagious characteristics in their manuscripts. For example, **Akshem-seddin** (1390-1459), mentioned contagious characteristics of some diseases and explained very small matters caused the diseases in his manuscript called **Mâidetü-l Hayat** (The Matters of Life in English).

Surgical operations were simple in Turkey until the nineteenth century. Some solutions such as vinegar, wine were used for dressing of wounds.

The nineteenth century was the modern century of Turks in the field of anesthesia, asepsis and antiseptics. Both antiseptics and asepsis was applied with modern methods for the first time in 1884-1892. So, operations were applied with aseptic methods (1).

Development of Asepsis and Antiseptics in Turkey in the Nineteenth Century

The first medical relations of Ottoman Turks with the Western World were seen in the seventeenth century (2,3). Thus, some Western medical books were also translated from Latin into Turkish (14). Turkish medicine in the nineteenth century obtained a modern characteristic. Tanzimat (political reforms) and Meşrutiyet (Constitutional government) pioneered in this respect. Many modern health foundations were established at that time and these also developed highly during the period of the republic. Moreover, some famous Turkish physicians pioneered in this development.

Sultan Mahmud II founded **Tıbbane and Cerrahhane-i Amire** (Medical and Surgical school) in 1827 in order to provide the health needs of the modern army and to train health personnel. This school applied the first modern form of health education in Turkey. Moreover, some Turkish physicians such as the chief-physician, **Mustafa Behçed** and physician **Şanizada Atullah** helped this Sultan.

Turkish society showed a great change in many fields such as education, military, architecture, clothing and health in this period. So, many

military and civilian foundations were founded at that time. Military hospitals weren't founded for centuries in Turkey. Thus, health personnel consisted of surgeons for many years and these also served as the military surgeons. **Sultan Selim III** (1789-1807) began to modernize the army and afterwards, some modern military hospitals were founded. Moreover, in this period, the first smallpox vaccination clinic was founded and smallpox vaccination was prepared in Turkey (4,5).

Moreover, modern asepsis, antiseptics and anesthesia were applied in Turkey in the nineteenth century for the first time. Ottoman-Turkish medicine was influenced by Eastern Medicine and especially by classic Muslim medical books in the XVII the century. But, the first effects of western medicine also began at that time. The modernization of Turkish medicine took place especially in the XIX th century. Some physicians studied on vaccination, quarantine and epidemic diseases (6).

Ottoman-Turkish medicine got some effects from Seljukian medicine and Islamic medicine. So, Ottoman-Turkish medicine had a classic and Eastern characteristics. In the Ottoman period (between fourteenth and nineteenth centuries), medical education was made in **Tıp Medresesi** (Medical School). Physicians were trained in the form of instructor-apprentice in these foundations. The modernization of medical education began in the nineteenth century. The first modern medical school (**Tıphane and Cerrahhane-i Amire** in Turkish, Medical and Surgical School in English) was founded in 1827 in Istanbul. Education was 3 years in **Cerrahhane-i Amire (Surgical School)**. Surgical education was separate from the medical education. This foundation was modernized in 1839 and it was called as **Mekteb-i tıbbiye-i**

Shahane (Medical School). The diplomas were given by the medical school in 1843. Surgery developed in the form of instructor-apprentice in the Ottoman period. This branch was learned in the examining rooms or in the military and civilian hospitals. Surgeons were under the order of physicians. If the surgeons passed their exams, the physicians gave a diploma. According to some histori-

cal deeds, surgeons worked in the hospitals in the Ottoman Period. Some simple surgical operations such as the extractions of teeth, the drainage of abscess, the treatments of some simple wounds, circumcision were applied. In these operations, opium was used as a local anesthetic. Because, opium is an analgesic matter. Surgical operations were simple in Turkey until the nineteenth century. Cauterization was applied for the treatment of hemorrhage and wounds until the nineteenth century. Some solutions such as vinegar, wine were used for dressing of wounds. Surgical applications were made by barbers.

Surgery shows three periods in the nineteenth century. In the first period, **Surgeon Ismail Pasha** (1807-1880), gave some surgical lectures and this period began in 1827. **Colonel Dr. Macarlı Abdullah Bey (Karl Eduard Hammerschmidt)** (1801-1874) expressed that **Dr. Eckstein** experienced ether narcosis with ether inhalator. After 1892, surgery became a branch of specialty. Because, surgery and medicine were united in the medical faculty in France in 1892. So, this condition effected on the Turkish medical education. Some Turkish physicians were trained on surgery in the European Universities. They applied modern methods in the field of surgery in Turkey. This period was the second period of the development of surgery in Turkey. Antisepsis was provided with phenol and pomades with iodoform in the surgery. Both antisepsis and asepsis was applied with modern methods for the first time in 1884-1892. Aseptic period was seen in 1892-1894 (7,8,9).

Dr. Cemil Topuzlu Pasha was sent to Paris in order to learn modern antiseptic methods and new surgical methods and anesthetic applications in 1887 and returned to Turkey in 1890. He served as an operator in Haydarpasha Hospital in Istanbul and applied new methods of antisepsis. He disinfected wounds with phenol. Topuzlu Pasha became associate professor in **Gülhane Medical School** and founded operating room with 50 beds. In 1892, he applied his operations with aseptic methods.

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development of surgery in Turkey. So, this period can be accepted as the beginning of modern surgery.

The education of surgery was in the fourth class in the Military School in the nineteenth century. Simple surgical operations, anesthesia, antisepsis, asepsis were taught. The lectures of clinical surgery were given in the fifth and sixth classes.

Chief-Physician Mustafa Behçet (1774-1834) is from Istanbul. He became both chief-physician and chief-surgeon. Moreover, he pioneered modern studies in the field of medicine. He was the founder of the modern military medical school. He studied in the field of quarantine. His most important books are *Çiçek Aşısı Risalesi* (Vaccination Pamphlet), *Fizyoloji Risalesi* (Physiological pamphlet), *Ruhiye veya Kuşur-u Lebeniye* (Suckling Disease), *Kolera risalesi* (Cholera Pamphlet) (Some precautions are found about the 1831 cholera epidemic in this book), *Tertib-i Ecza* (Prescriptions). **Çiçek Aşısı Risalesi (Risale-i Telkih-i Bakari)** (Vaccination Pamphlet in English) is a translation of a book of **Edward Jenner** called **An Inquiry into the Causes and Effects of the Variolae Vaccinae** with the date of 1798. This translation was written in 1801 by **Mustafa Behçet Efendi**. An Original issue of **Mustafa Behçet Efendi's** book is recorded in British Museum Library Or. 3218. Other issues are also found in Topkapı Palace Library with the number of Hazine 568 and in Archeology Museum Library with the number of Y.732 in Istanbul.

He stressed that vaccination must be used in Turkey. He became the pioneer of the usage of smallpox-vaccination in Turkey. Thus, in Turkey, the eighteenth century is important due to smallpox-vaccination. Lady Montagu, the wife of the British Ambassador to Turkey, in a letter which she sent in 1717 from Edirne to her friends in London, wrote about the vaccination which had been applied since 1679 in Turkey. She described the whole process as she saw it and drew the attention of English physicians. She even had her son vaccinated in this manner. At that time, especially women who had the vaccination, felt sick for a few days and had infection on the spot but were immu-

nized against smallpox for ever. A famous English physician, called **Edward Jenner** (1749-1813) discovered smallpox vaccination. So, in the nineteenth century, the process of vaccination was applied by using the pus which had been transferred from cows to men in the manner of Jenner in Turkey.

Chief-Physician-Surgeon İsmail Pasha (1807-1880): This famous surgeon graduated from Surgical School and became chief-surgeon in 1843. Afterwards, he went to Paris for the medical education. He became chief-physician in 1845. He also became the minister of military medical school in 1852. The western scientific world accepted this school as the medical faculty in 1847. İsmail Pasha opened the courses of the smallpox vaccination. He provided that the Turkish women educated in the medical faculty. He repaired Yalova Thermal Springs. He knew French and Greek very well. He wrote some pamphlets about smallpox vaccination, poisonings, medical drugs, cholera and veterinary diseases (10,11).

Smallpox vaccination was known in 1840 in Turkey for the first time. At that time, smallpox-vaccine was applied to many persons in the medical school. So, 1705 persons were vaccinated in 1841-1842. **Şanizade Atullah** mentioned smallpox vaccination in his book, called **Miyarü'l Etibba** (The Mirror of Physicians in English) in 1820.

The foundation of vaccination was established by **Dr.Hüseyin Remzi Bey** in Istanbul in 1892. So, in this foundation, smallpox-vaccine was prepared. This foundation was called **Telkihane-i Osmani** in Turkish. This foundation was found in the Medical School at that time.

The foundation of quarantine was founded in Çanakkale in 1835 for cholera pandemics. The administration of quarantine was also founded in Istanbul in 1838.

Moreover, **Dr.Zoeros Pasha** founded the foundations of scabies and bacteriology in Istanbul in 1887. Serum of diphtheria, and the vaccines of typhoid, dysentery, cholera etc. were prepared after 1914.

In the Republic Period, **Refik Saydam** Institute of Public Health began to make services of foundations of vaccine and serum. In this period, various vaccines were applied and infectious diseases were also prevented (12).

Many infectious diseases were prevented, after Turkish Republic was founded in 1923. Some societies about malaria, tuberculosis were also founded. Today, The Society of AIDS is also found in Istanbul. The departments of bacteriology, microbiology are present in the medical faculties in Turkey.

Importance of Asepsis and Antisepsis From The Point of view of Turkish Medicine of Today and Future

Today, Turkish medicine applies modern methods in the fields of anesthesia and asepsis and antisepsis. Many modern medical faculties and hospitals have modern operating rooms and surgical pavillions. The tools of operating room are disinfected with modern methods. These are cleaned with the modern machines. Moreover, modern gloves are used by surgeons. Epidemic diseases are prevented in Turkey, today So, these modern applications are very important for the Turkish medicine of future. The origin of these developments depend on the studies in the nineteenth century (13,14).

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