MINISTRY OF HEALTH OF UKRAINE

BOGOMOLETS NATIONAL MEDICAL UNIVERSITY

DERMATOLOGY VENEREOLOGY

(Second edition, revised and expanded)

Edited by Corresponding Member
of the National Academy of Medical Sciences of Ukraine,
Professor V.I. Stepanenko

Recommended By the Academic Council of the Higher Educational Institution of the National Medical University named after O.O. Bohomolets, Ministry of Health of Ukraine, as a textbook for higher medical education seekers at higher education institutions of Ukraine

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The second edition of the textbook (the first edition was released in 2013) was prepared by the staff of the Department of Dermatology and Venereology with the course in Cosmetology of the National Medical University named after O.O. Bohomolets and leading dermatovenereologists from similar departments of higher education institutions of Ukraine, under the general editorship of Corresponding Member of the NAMS of Ukraine, Professor V.I. Stepanenko.

The textbook presents modern views on the etiology and pathogenesis of skin diseases and their appendages, as well as infections transmitted mainly by sexual contact. It includes the clinical picture and course of several dermatoses and infections, primarily transmitted through sexual contact, and presents the latest methods of diagnosis, treatment, and prevention of these conditions.

The textbook is compiled in accordance with the Law of Ukraine «On Higher Education» (2014), the Higher Education Standard for the specialties «Medicine», «Pediatrics», and «Dentistry», which defines the volume of theoretical knowledge, skills, and other competencies required to achieve the learning outcomes, in line with the educational activity concept and educational programs for these specialties based on relevant sectoral standards.

The textbook includes compulsory topics based on the thematic plan for lectures and practical sessions. It also includes several other sections of dermatology and venereology, the knowledge of which is essential for differential diagnosis of nosological forms of skin pathology. In addition, the textbook features topics from elective courses «Medical Cosmetology» and «Skin Neoplasms». The text includes illustrative material based on clinical observations by the co-authors of the textbook, including staff from the Department of Dermatology and Venereology with the Cosmetology course of the N.M.U. named after O.O. Bohomolets, as well as some exclusive illustrations from the museum of waxworks of this department. The «Medical Cosmetology» section presents illustrative materials from clinical observations by the co-authors from the relevant department at Odessa National Medical University.

For students of higher medical education institutions in Ukraine, interns, and practicing doctors.

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SPECIAL DERMATOLOGY

SEXUALLY TRANSMITTED INFECTIONS (VENEREAL DISEASES)

PREFACE TO THE SECOND (REVISED AND EXPANDED) EDITION

Since the first edition of this textbook was published in 2013 and recommended by the Ministry of Health of Ukraine as a textbook for students of higher medical educational institutions of the IV accreditation level, several methodological changes have taken place at the legislative level concerning higher education in Ukraine. Taking this into account, the second edition of the textbook has been prepared in accordance with the Law of Ukraine «On Higher Education» (2014) and the Higher Education Standard for the specialties «Medicine,» «Pediatrics,» and «Dentistry.» These standards define the scope of theoretical knowledge, skills, competencies, and other learning outcomes in line with the concept of educational activities and programs based on relevant industry standards.

During the preparation of this second edition, advances in dermatovenerology in recent years were taken into account. Several sections related to skin diseases and sexually transmitted infections have been revised and expanded, particularly in light of updated diagnostic and treatment protocols.

Dermatovenerology is a branch of clinical medicine that includes dermatology (from the Greek words derma – skin and logos – study) – the science of skin structure, function, and diseases – and venereology (Venus, the Roman goddess of love) – the science of venereal diseases. The unification of these fields was based on the fact that some venereal diseases present with skin rashes.

In recent decades, the term «venereal diseases» has been replaced with «sexually transmitted infections» (STIs) due to the significant increase in diseases where the pathogen is primarily transmitted sexually. Currently, there are approximately 2,000 known dermatological conditions, along with more than 20 diseases primarily transmitted through sexual contact.

This textbook presents modern perspectives on the etiology, pathogenesis, clinical presentation, course, and classification of skin diseases, as well as sexually transmitted infections. It also describes available and novel diagnostic methods, differential diagnostic criteria, contemporary treatment approaches, and preventive measures.

Studying the fundamentals of dermatovenerology in the fourth year of medical and dental faculties at higher educational institutions in Ukraine is an essential component of medical training. This field is closely connected to internal

medicine, infectious diseases, urology, obstetrics, and gynecology. Pediatric dermatovenerology, in turn, is closely linked with neonatology and pediatrics.

As an independent clinical discipline, dermatovenerology is divided into general and specialized sections. Its study involves acquiring knowledge about the etiology, pathogenesis, and clinical manifestations of various dermatological disorders, as well as mastering modern diagnostic and treatment approaches and implementing preventive measures. Medical students must develop the ability to identify and correctly diagnose different dermatoses and sexually transmitted infections, communicate with patients in a professional and ethical manner, and ensure appropriate patient care.

Mastering the curriculum outlined in this textbook should help medical students develop both clinical and preventive thinking. It emphasizes the medical and social significance of dermatovenerology and the rationale for implementing specific preventive measures.

The goal of this textbook is to ensure compliance with the requirements of the Law of Ukraine «On Higher Education» (2014), particularly by providing up-to-date theoretical knowledge and assisting medical students in acquiring practical skills. The textbook is designed to encourage independent study of each topic and lecture material through self-directed learning and practical sessions.

The material is presented at a professional level, integrating interdisciplinary elements. Given the vast number of dermatological conditions and sexually transmitted infections, this textbook helps consolidate theoretical knowledge and assess students' professional reasoning through self-assessment questions and practical applications of previously acquired skills.

Finally, I would like to express my deep gratitude for the technical assistance in preparing this second revised and expanded edition to V.M. Serebrova, a staff member of the Department of Dermatology and Venereology with a Course in Cosmetology at Bogomolets National Medical University; O.O. Kupriyanova, director of the «KIM» publishing house in Kyiv; and V.V. Bobrova, an employee of this publishing house.

We invite users of this textbook to submit their comments and suggestions regarding its content to the Department of Dermatology and Venereology with a Course in Cosmetology at Bogomolets National Medical University at the following address 01601, Kyiv, Taras Shevchenko Boulevard, 13.

Corresponding Member
of the National Academy of Medical Sciences of Ukraine,
Professor V.I. Stepanenko

ANNOTATION
TO THE TEXTBOOK «DERMATOLOGY, VENEREOLOGY»
(Second Edition, Revised and Expanded)

The second edition of this textbook (the first was published in 2013) was prepared by the staff of the Department of Dermatology and Venereology with a Course in Cosmetology at Bogomolets National Medical University and leading dermatovenerologists from similar departments of higher education institutions in Ukraine, under the general editorship of Corresponding Member of the National Academy of Medical Sciences of Ukraine, Professor V.I. Stepanenko.

The textbook has been compiled in accordance with the Law of Ukraine «On Higher Education» (2014) and the Higher Education Standard for the specialties «Medicine,» «Pediatrics,» and «Dentistry.» These standards define the theoretical knowledge, skills, and competencies required to achieve specified learning outcomes in accordance with the educational programs for these specialties, based on relevant industry standards. The textbook includes mandatory topics according to the thematic plan of lectures and practical sessions. Additionally, it covers other sections of dermatology and venereology essential for the differential diagnosis of dermatological conditions. Furthermore, elective courses on Medical Cosmetology and Skin Neoplasms are also included.

This second edition takes into account recent advancements in dermatovenerology. Several sections on skin diseases and sexually transmitted infections (STIs) have been revised and expanded, reflecting updates in diagnostic and treatment protocols.

From a modern perspective, the textbook presents views on the etiology and pathogenesis of skin diseases and its appendages, as well as STIs. It describes the clinical manifestations and progression of various dermatoses and sexually transmitted infections in contemporary conditions. Additionally, it covers the latest diagnostic methods, treatments, and preventive measures. The textbook includes illustrative materials based on clinical observations by its co-authors, particularly the staff of the Department of Dermatology and Venereology with a Course in Cosmetology at Bogomolets National Medical University. Some illustrations feature exclusive teaching exhibits from the department's moulage museum. In the section «Medical Cosmetology,» illustrative material of clinical observations by the co-authors of this section, staff members of the specialized department of the Odessa National Medical University, is presented.

This publication enables medical students to navigate the diverse clinical presentations of skin diseases and STIs, perform differential diagnoses, prescribe appropriate treatment using modern pharmaceuticals, and provide patients with recommendations to prevent the occurrence and recurrence of specific inflammatory conditions, as well as to curb their further spread.

The authors of the textbook considered current teaching standards, incorporating an innovative approach to independent student learning. Special attention was given to transitioning to European educational principles and assessment of theoretical knowledge, skills, and practical competencies. This work is based on many years of teaching experience in this discipline at medical faculties of higher education institutions in Ukraine.

The textbook is intended for medical students, interns, and practicing physicians in higher education institutions of Ukraine.

V.I. Stepanenko

1 TOPIC

Introduction to Dermatovenerology

Dermatovenerology is a clinical medical science to study objective and subjective features of a variety of clinical manifestations of human skin and mucous membrane lesions in their unity and interaction with internal organs and systems, as well as environment in general.

TRAINING AND EDUCATIONAL PURPOSES

- To analyze the stages of formation of dermatovenerology as an individual clinical science
- To define the main achievements of global and domestic dermatovenerology

TO KNOW:

- the value and place of dermatovenerology in residency training;
- definition of dermatological pathology as a medical-psychological problem;
- the general description of historical development of dermatovenerology (the role of works by Hippocrates, Cornelius Celsus, Avicenna, Mercurialis, Whelan, etc.);
- data on formation and development of various foreign schools of scientific dermatovenerology in the XIX–XX centuries (French and German schools of dermatology, their founders and prominent representatives – Jean Alibert, F. Gebre, K. Gibert, M. Kaposi, etc.);
- the contribution of the founders of Russian school of dermatovenerology – Polotebnov A.V., Tarnowski V.M., Pospelov A.I. and others in development of dermatovenerology;
- significant contribution of Ukrainian school of dermatovenerology (Stukovenkov M.I., Nikolsky P.V., Zelenev I.F. and others) in global dermatology.

TO BE ABLE TO:

- distinguish the main phases of development of dermatology and venereology;
- evaluate evolutionary breakthroughs of global and domestic science towards development of diagnostic methods and pathogenic therapeutic regimens of dermatovenerologic patients;
- manage basic deontological principles of dermatologist.

Dermatology: Stages of Development

Dermatology is the science to study skin. Dermatology studies skin structure and functions in normal condition and upon incurrence of any skin problems from different points of view: anatomical, physiological, clinical, biochemical, histochemical, immunological and others.

Dermatology is closely related to other areas of clinical medicine: venereal diseases, infectious diseases, medical diseases, pediatrics, endocrinology, neuropathology, psychiatry, etc. At present, the fact that skin is a body linked to the whole organism with circulatory, lymphatic, endocrine and nervous systems is considered an axiom. In addition, skin is an important part of the immune system. Respectively, visceral diseases affect skin condition to any extent. As the outer body covering, skin is affected by a variety of harmful environmental factors that can manifest itself in a barely noticeable to severe form.

As science, dermatology originated in XVIII century. Though, a number of skin diseases are known to mankind since ancient times. Development of dermatology is closely linked to advancement of natural science and social systems, which allows studying the history of dermatology in stages.

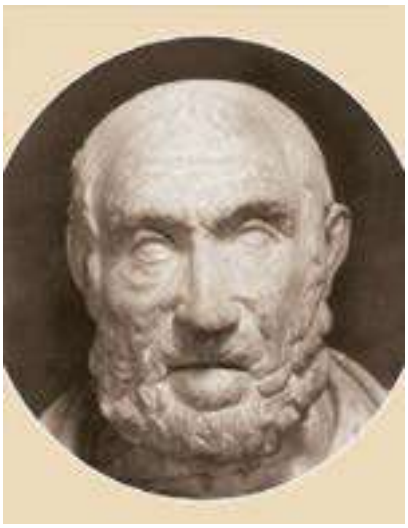
The first phase refers to the time of primitive society and formation of the slave- owning system. Definitely, primitive man paid attention to various skin lesions, responded to itching caused by different pathological processes and noticed that some plants helped to reduce, while others just increased irritation. From generation to generation, people accumulated observations over the course of various skin diseases and means to treat them.

With the advent of writing, the accumulated experience made its appearance in medical treatises. The first data on skin diseases is recorded in ancient China, India, Egypt and Greece. In particular, a doctor known as Goang-Tee systematized medical knowledge of that time in China in 2637 BCE. The diseases described in his treatise involved some cases of dermatopathy: mange, furuncle, carbuncle, erysipelas, impetigo, ichthyosis, eczema, leprosy, alopecia, vitiligo, and others. The work also reported on methods of treatment of these diseases.

Ancient Indian medical treatises (2000–700 years. BCE) described numerous skin diseases, as well as over seven hundred of different plants used to treat them.

Egyptian papyrus dated by 1700 BCE contains a list of drugs for various diseases, including scabies, as well as a large number of recommendations on hygienic skin care. Dated by 1500 BCE, so-called books of Moses describe leprosy *(lepra)*, loss of skin pigment *(vitiligo)* and hair loss *(alopecia)*.

In ancient Greece and Rome, people also studied dermatology. The greatest of Greek physicians of the time, Hippocrates (460–370 yrs. BCE), is the founder of scientific medicine. He summarized and systematized known data on skin



Hippocrates
(460-370 years. BCE)

Aulus Cornelius Celsus
(25 BCE – 50 CE)

diseases, described leprosy, scabs, alopecia, herpes and other dermatoses (more than 40 clinical entities). Hippocrates was the first to focus on the link of skin diseases with changes of internal organs and influence of environmental factors. In his view, human skin diseases associated with some pathology of internal organs were predetermined by the «spoiled juices» of the body (humoral theory). In ancient Rome, science in general, including medicine, reached a higher level. Descriptions of some skin diseases become more detailed, while new dermatological terms appear; some of them are used to date.

The 1st century BCE allocates an outstanding physician, Aulus Cornelius Celsus, who left a detailed description of many skin diseases, including furunculus, carbuncles, barber's rash, psoriasis, erysipelas. In treatment of eczema and similar lesions, Celsus advised to use lead and sulfur ointment. His successor, Galen (2nd century BCE), attempted to study skin structure. He proposed a classification of skin diseases based on their location: diseases of head, arms, legs and other body parts.

In the following century of Great Migration, general science, including medicine, is falling into decay. The second stage in the development of medicine, particularly dermatology, belongs to the period of Middle Ages. Instead of slave-owning system, European countries welcome feudalism. The center of medical research is moving to the East: to Arab countries. On the border of the X–XI centuries CE, the world received the most famous work of the outstanding scientist and physician, Abu Ali Ibn Sina, better known as Avicenna. His «Canon of Medicine» was the first paper to successfully encyclopedize and summarize the medical knowledge of the time. Avicenna devoted considerable attention to the study of skin diseases. He described pemphigus, leishmaniasis, and hives; knew how to differentiate leprosy from

elephantiasis, pruritus of scabies; addressed the issues of cosmetology.

In the second half of the XVI century, Europe welcomed the third stage in the development of medicine, particularly dermatology. This period is associated with the decay of feudal society, which is replaced by capitalist socio-economic system. There comes development of natural sciences, physics, chemistry, medical science, especially anatomy and physiology. During this period, the first books of skin diseases appear. The work of an Italian scientist Jerome Merkurialis (1572) was considered most popular paper of the time. Girolamo Mercuriale provided all previously described skin conditions, but failed to classify them.

Avicenna (Abu Ali Hussain Ibn Abdallah Ibn Sina) (980-1037 yrs.)

As an independent scientific medical discipline, dermatology was allocated in the second half of the XVIII century. Morphological direction comes to the fore. This fact involves the need to organize and unify the description, as well as interpret manifestations of skin diseases: morphological elements of the rash. There appears a set of textbooks, particularly a book by an Austrian doctor, Plenk (1772), in which he attempts to classify skin diseases basing on morphological characters; a textbook by a French doctor, Lorrie (1777), in which he described the anatomy and physiology of skin and tried to identify the etiology and pathogenesis of some skin diseases; a textbook by an English doctor, Wheellen (1798), who succeeded to classify skin diseases by primary morphological features.

Jerome Merkurialis (Girolamo Mercuriale) (1530-1606 yrs.)

In the early nineteenth century, first dermatological schools are formed. Establishment of dermatology as a separate field of clinical medicine is completed. Formed in 1801 in Paris and based on the Saint-Louis Hospital, French Dermatovenereological School was the first institution for patients with skin diseases. Jean-Louis Aliber (1768–1837 yrs.) is justly considered the school's founder. He introduced the terms of «dermatitis», «syphilide»

Jean-Louis Alibert
(1768-1837 yrs.)

Ferdinand von Hebra
(1816-1880 yrs.)

and «ichthyosis». Talented students and followers of Aliber, particularly Biett (1781–1840 yrs.), Cazenave (1795–1877 yrs.), Gibert (1796–1866 yrs.), Vidal (1825–1893 yrs.), Bazin (1807–1878 yrs.), Hardy (1811–1893 yrs.) are also to be noted. The concept based on the fact that the main cause of skin diseases is presented by humoral factors, so-called dyscrasia and diathesis, is typical for French dermatological school.

Vienna (German) Dermatologic School was formed in the 40s of the XIX century. Ferdinand von Hebra (1816–1880 yrs.) is considered the school's founder. F.Hebra believed that postmortem skin studies were of biggest importance in the study of skin diseases. He created an appropriate classification of dermatoses. Considering the majority of skin diseases as local processes mainly caused by external factors, Hebra reduced the value of domestic factors in the etiology of dermatoses to a minimum.

Divergent views on the nature of skin diseases caused long controversy between the French and Viennese dermatological schools, which ended only in the early twentieth century.

Among talented members of the Vienna (and hence German) dermatological school of the nineteenth century, the following scientists are to be noted: Simon (described *Demodex folliculorum*), Kaposi (investigated idiopathic hemorrhagic sarcoma, known as Kaposi's sarcoma), Neumann (identified vegetating pemphigus), Auspitz (determined a triad of symptoms characteristic of psoriasis), Koebner (established the phenomenon of isomorphic reaction in psoriasis).

In other countries, development of dermatology was based on views and attitudes of the French or Vienna dermatological schools and featured no significantly independent, original peculiarities

In 1863, the establishment of the Charter of the Universities facilitated evolution of academical medical science, including scientific dermatology.

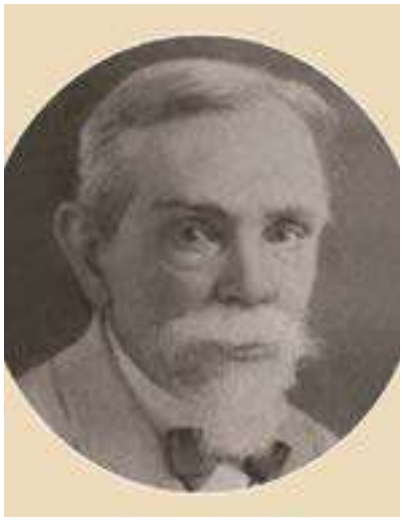
In 1863, the academic specialized clinic of dermatology was formed on the basis of the Kiev Military Hospital. Goretskiy L.K., the assistant professor of the Department of Special Treatment of the Kiev University of St. Vladimir, became a head of the clinic and curator of the skin disease course. Headed by Goretskiy L.K., the institution was virtually the first clinic of dermatology. Headed by Professor Gyubbenet Kh.Y., syphilitic clinic was a part of surgical clinic. In 1864, associate professor Goretskiy L.K. gave a course of lectures in skin diseases to medical students. Students of the 9th and 10th semesters attended classes twice a week. Since 1873, Goretskiy L.K. was asked to teach not only the course of skin diseases, but also give lectures on syphilis. He was able to properly combine theoretical and practical training of students. At the end of the 60ies of the XIX century.

In 1884, the readership course of skin and syphilitic diseases was redeveloped into a separate department. Within the period from 1884 to 1897, Professor Stukovenkov M.I. became the first head of the department. He is justly considered the founder of the Ukrainian (Kiev) School of Dermatology. The school created by Stukovenkov M.I. stood for a patient's comprehensive examination, rather than just studying of visible manifestations of a skin disease. Thus, the members were to reveal the inner connection of dermatoses with the general body condition, as well as detect the causes of the lesions. Stukovenkov M.I. devoted special attention to studying of nervous system of patients with skin diseases. He first acquainted physicians with foliaceous pemphigus, mycosis fungoides, rhinoscleroma and idiopathic Kaposi's sarcoma in his publications. His original researches of treatment of syphilis with mercurial preparations are of particular significance. Stukovenkov M.I. provided the world's first scientific proof of therapeutic doses of mercury drugs in treatment of syphilis infection.

Ludwig Kazimirovich Goretsky
(1826-1885 yrs.)

The best representatives of the national school of dermatovenerologists established by Stukovenkov M.I. became well known scientists and headed the specialized departments of medical faculties in some universities, in particular Nikolsky P.V. (Warsaw, Rostov-on-Don), Borovsky V.K. (Kiev), Zelenev I.F. (Kharkiv), and others. Professor Nikolsky P.V. became world famous thanks to the fact he was the first to describe the symptom of exfoliation in pemphigus verus, which entered into the world diagnostic practice under his name. In turn, Nikolsky P.V. established

Stukovenkov M.I.
(1842-1897 yrs.)



Nikolsky P.V.
(1858-1940 yrs.)

a scientific school that created future professors Glukhenky T.T., Kozhevnikov P.V., Lavrov A.P., Shiryaev F.I., etc.

Within the period from 1898 to 1916, professor Tomaszewski S.P. replaced Stukovenkov M.I. as a head of the university department. He lobbied for women's higher medical education and became one of the organizers of the Kiev Medical Women's Institute, founded in 1916. In 1900, Tomaszewski S.P. established the Scientific Association of Dermatology and Venereology of Kiev.

In the future, chairholders and employees of the science department of the University of Kiev kept with the best traditions to enrich national and global Dermatovenereology with their scientific achievements. So, Professor Terebinsky V.I. studied the histopathology of skin and ichthyosis, worked on the clinical diagnosis of syphilis; Professor Borovsky V.K. improved treatment and prevention of syphilis, Professor Tyzhnenko A.M. actively prepared scientific and pedagogical staff, researched skin cancer, red and tubercular lupus, hyperkeratosis. Associate professor Bogdanovich S.N. was a talented clinician and gifted diagnostician of skin diseases. He developed and introduced the expurgatory mode of treatment of skin allergic diseases into clinical practice, worked out diagnostics of skin tumors. Scientific and practical developments and achievements of Professor Kuznets M.M. (studied the histological changes in skin aging, malnutrition, vitamin deficiency) and Professor Kartamyshev A.I. (introduced additional diagnostic test for the diagnosis of pemphigus – to determine the level of chloride in the urine, actively prepared scientific and pedagogical staff, created a tutorial «Skin and Venereal Diseases», which has been repeatedly published and republished in Ukrainian and Chinese) are also especially noteworthy.

Professor Pototsky I.I. is considered an opinion leader in medical-scientific schools of Ukraine. His works are devoted to a deep research of the role of

Zelenev I.F.
(1860-1918 yrs.)

nervous system in development of some chronic dermatoses, respiratory function of skin, skin lesions in leukemia, as well as improvement of treatment of syphilis. His methods of zonal ultraviolet skin irradiation in psoriasis and oxygen therapy in a number of dermatoses are well known. He trained a large group of talented scientists, most of whom were heads of departments of dermatology in various medical schools or heads of departments in professional research institutes, in particular Kolyadenko V.G. (Kiev), Lyashenko I.N. (Vinnitsa), Levkovsky N.M. (Kiev), Tsirkunov L.P. (Kiev), Khasabov L.M. (Rostov-on-Don), Grebennikov V.A. (Rostov-on-Don), Rodin A.Y. (Simferopol), Karagezyan M.A. (Krasnodar), Tseraidis G.S. (Kharkiv) and others. Professors Karysheva K.O., Kalantaevskaya K.A., Glukhenky B.T., Kalyuzhnaya L.D. are also well-known representatives of the school of Dermatovenereology of Kiev.

The dermatological school of Kharkov is considered a strong Ukrainian institution. Since 1876, associate Professor Kuznetsov A.K. lectured the course of skin diseases, while Professor of surgery Zarubin I.K. lectured a course of syphilology to students of the medicine faculty of Kharkov. An independent chair of skin and venereal diseases was founded in Kharkov in 1885. Until 1897, this department was headed by Professor Brunev O.Y. From 1897 to 1911, the position was given to Professor Zelenev I.F., the founder and editor of the «Journal of Skin and Venereal Diseases», published from 1901 to 1918 in Kharkov. Renowned scientists that headed the Department of Skin and Venereal Diseases at the Kharkov Medical Institute included Professor Sobolev L.A., Professor Popov I.S. (developed a microtest- tissue method to research mushrooms, described new clinical forms of pyodermas). In addition, Popov I.S. prepared a number of talented scientists and organizers of dermatovenereological field, among which professors Zadorozhny B.Y. (conducted fundamental research of psoriasis and several other severe dermatoses) and Pyatikop A.I. are to be mentioned.

An important role in development of the Ukrainian School of Dermatovenereology belongs to the first Ukrainian Scientific Research Institute of Dermatovenerology, established in 1924 in Kharkov. This institute was headed by famous dermatovenereologists: professors Fedorovsky A.N., Krichevsky A.M., Pyatikop A.I., Mavrov I.I.

From 1961 to 1976, Professor Torsuev N.A., the Head of the Department of Skin and Venereal Diseases of the Medical Institute of Donetsk was considered

an outstanding representative of the Ukrainian dermatological school. He implemented systematization of occupational skin diseases. A comprehensive study of leprosy conducted by Torsuev N.A. received worldwide recognition.

Venerology: Stages of Development

Venereology is the science of sexually transmitted diseases (diseases transmitted primarily through sexual contact). These infectious diseases feature specific pathogens. Therefore, venereology studies the epidemiology, pathogenesis, clinical manifestations, diagnosis, treatment and prevention of related infections.

The data about sexually transmitted diseases (diseases transmitted mainly through sex) came down to us from ancient times. However, until the 30s of the XIX century the understanding of these diseases was fairly simplistic.

The first stage in development of venereology dates back to ancient times and continued until the end of the XV century. Historical monuments of Egyptian medicine, particularly the Ebers Papyrus (1700 BC. E.), report about inflammation of the urinary canal (urethra). Hippocrates (V century BC) provided a sufficiently detailed clinical picture of inflammation of the urethra. He also described a «white discharge» from the vagina. Later, Galen (II century AD) proposed qualifying relevant lesions as gonorrhea(*γονοζ* – seed, *ρεω* – flow). Arabic physician Abu-Bakr-Rhazes (IX century BC) proposed to treat urethritis with lead solution syringing. By the end of the XV century, scientists accumulated numerous observations of these diseases, in particular diagnosed their infectiousness and transmission, as well as and identified the means of prevention.

The second phase of the development of venereology belongs to the end of the XV century, when Europe faced a pandemic of a previously unknown disease, which was first called «*lues*» (punishment). In the future, the disease received the names of some saints (St. Jorgen's disease), as well as that of the countries it came from (Spanish, French, German, Polish disease). Later, the disease was called «syphilis.»

Until now, the issue of origin of syphilis remains debatable. Some scientists believe syphilis existed in Europe, Asia and the Middle East since ancient times. Proponents of this hypothesis point out that excavations of Neolithic burials at various places of Eurasia revealed bones of people with signs of past specific syphilitic gummatous osteomyelitis and gummatous osteoperiostitis. In addition, to prove this hypothesis they reference to the ancient Chinese, Indian and Egyptian treatises that provide descriptions of diseases in the genital area, anus, mouth and nose, as well as bones, which can be considered as manifestations of syphilis. We also know that Hippocrates (V c. BC. E.), Celsus (I c. BC. E.) and Galen (II c. BC. E.) described condylomatous rash on the genitals in combination with diseases of the larynx and bone, which are also

possible manifestations of syphilis. In his treatises (X–XI centuries, BC. E.), Avicenna described diseases similar to the clinical manifestations of syphilis.

Ex another hypothesis by some modern scholars, syphilis first appeared in Africa. They suggest that pathogens of tropical treponematoses, including frambesia, carate, bejel, as well as and the causative agent of syphilis represent different versions of once common primary treponema. The early Neolithic age is considered the period when the disease of human treponematosis emerged. In addition, there is further evidence for this hypothesis: there is observed some morphological and biological identity of Treponema pallidum (the causative agent of syphilis) and treponemes that cause tropical treponematosis with a similar clinical course of these infections and cross-immunity.

However, the hypothesis of American origin of syphilis features the greatest number of adherents. It is indicated that the disease was brought to Europe by the sailors from the expedition of Christopher Columbus, after the discovery of America. Sailors were infected from the natives of Haiti, where the disease was known long before the arrival of Europeans. It is important to note that authoritative domestic epidemiologist Gromashevskiy L.V. also supported the hypothesis of an American origin of syphilis and suggested that the disease arose as a result of sexual spirochetosis of South American llamas and moved to the local people as a result of bestiality. In further, the locals infected the sailors of Columbus. The first data on the disease appeared in Spain (1494), then – in Italy, and with time – in other countries of Europe and Asia.

In 1530, Italian physician, philosopher and poet Girolamo Fracastoro named the disease as syphilis, after shepherd Syphilus (from *sys* – pig, *philos* – friend), the hero of the poem «Syphilis, or the Gallic disease.» The essence of the disease remained unknown. Some doctors referred formerly known gonorrhea to syphilis. With the progress in microbiology, a number of pathogens of sexually transmitted diseases were identified. This marked the beginning of the third stage in development of venereology. In 1836, Donne A. first discovered trichomonads in a woman's vagina. Nearly a century after that, they were considered harmless inhabitants of the vagina. Though, in 1870 Kharkov scientist Lazarevich I. wrote that the presence of trichomonads in vagina is accompanied by inflammatory manifestations and foamy discharge. In 1879, German scientist Neisser A. discovered the causative agent of gonorrhoeae – gonococcus. In 1905, Schaudinn F. and Hoffmann E. found a specific causative agent of syphilis – Treponema Pallidum.

In later years, it was found that the so-called abacterial urethrides can be caused by viral, chlamydia, mycoplasma and ureaplasma infections. Implementation of methods of serodiagnosis was a significant event in the development of syphilology. In 1906, *Wassermann*, *Neisser*, *Bruck* suggested a complement fixation test, which gradually improved. In the future, specific reactions for serological diagnosis of syphilis were proposed: treponema

pallidum immobilization test (R. Nelsen, M. Mayer, 1949), immunofluorescence test (Weller, Coons, 1954). At the present stage, the method of diagnosis of syphilis using enzyme multiplied immunoassay is applied.

To speed up the diagnosis of syphilis, flocculation tests by Kahn, Sachs-Witebsky and indicative rapid test method of microreaction on glass were offered. In parallel, considerable attention was paid to the further study of the causative agent of syphilis, its ultra structure and interaction with cells of the patient, variability of L-forms of Treponema pallidum; the possibility of persistence of Treponema in poly-membranous phagosomes of cells was established (Ovchinnikov N.M., Delektorsky V.V., 1965).

Throughout the history of syphilology, researchers focused on a comprehensive study of clinical manifestations of the disease.

Fundamental studies of Ricord Ph., Fournier A., Tarnowski V.M., Grigoriev P.S., Astvatsaturov K.S. and many other scientists refined various features of manifestations of syphilis infection and improved quality of the disease clinical diagnosis. In recent decades, the study of clinical picture of syphilis by scientists from research institutes of dermatovenerology, centers and departments of dermatology in several countries, including the Ukraine, revealed some features of syphilis symptoms (oligosymptomatic forms, prolonged latent time of infection after introduction of infection, etc.). Syphilologists always focused on the problem of innate and latent syphilis.

Doctors paid special attention to treatment of syphilis. At the end of the XV – beginning of the XVI century, right after Europe faced pandemic syphilis, the studies of methods and treatments that have been used in medicine at that time (diuretic, laxative, diaphoretic drugs, bleeding, etc.) were started, but they failed to be efficient.

As evidenced by numerous domestic and foreign medical chronicles, mercurial were one of the oldest antiluetic therapeutic agents. Since the end of the XV century, rubbing mercury ointment was the most common method of syphilis treatment used in Europe...

In 1894, the founder of the Ukrainian (Kiev) Research School of Dermatovenereologists Prof. Stukovenkov M.I. was the first in the world to scientifically prove the methods of treating syphilis with mercurials and clearly defined therapeutic daily doses through a proposed protein-based methodology for identification of mercury in biological fluids.

In 1909, an entirely new approach to treatment of syphilis appeared. German physician and researcher P. Ehrlich proposed to treat the disease with a triad arsenic drug – Salvarsan. In 1912, an improved product based on arsenic was synthesized – *Neosalvarsan*. Given a sufficiently high therapeutic effect, Neosalvarsan was used in syphilological practice for decades.

In 1921, Levaditi K. and Sazerac Z. offered to introduce bismuth compounds into syphilological practice. Biiochinolum, Bismoverolum, Pentabismolum

were often used for intramuscular administration. From the 30ies of the XX century, the treatment of syphilis widely used iodine drugs (potassium iodide, sodium iodide, Lugol's solution). Iodine was administered orally mainly in advanced syphilis, as well as for trial treatment with diagnostic purpose to differentiate syphilitic inflammations in visceral organs from those non-specific.

With the 40ies of the XX century, a new era in treatment of syphilis began, after introduction of penicillin in medical practice. In terms of antibacterial effect, this antibiotic exceeded all known at the time antiluetic medicines. Until the 60ies of the XX century, the method of syphilis treatment included the use of intermittent scheme (combined prescription of penicillin antibiotics and bismuth drugs). Later, a continuous (permanent) scheme of treatment with penicillin group of drugs and no bismuth drugs was used.

Basic modern medicines for etiotropic treatment of syphilis are presented by penicillin and its repository drugs. Tetracyclines, macrolides and cephalosporins are reserve drugs of etiotropic treatment of this infection.

In recent decades, methods of treatment of chlamydia, mycoplasma, ureaplasma, herpes and other urogenital infections are developed and improved. Studies are still in progress.

Development of Venereology is closely related to the control of infections that are primarily transmitted through sexual contact. Practical and scientific solution to the problem was significantly contributed by Stukovenkov M.I., Zabolotny D.K., Mechnikov I.I., Tarnowski V.G., Tomaszewski S.P., Zelenev I.F., Rakhmanov V.A., Grigoriev P.S., Tyzhnenko A.M., Torsuev N.A., Pototski I.I., Turanov N.M., Ovchinnikov N.M., Porudominsky I.M., Ilyin I.I., Mavrov I.I. and others.