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FROM THE HISTORY OF PHARMACOLOGY

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ABSTRACT
The article provides a brief overview of the history of the science of Pharmacology and its development. In order to cover the topic of the article, works of ancient and medieval scientists were widely used.

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The doctrine of medicines is one of the most ancient medical disciplines. Apparently, drug therapy in the most primitive form already existed in primitive human society. By eating certain plants, watching animals eating plants, a person gradually got acquainted with the properties of plants, including their therapeutic effect. The fact that the first medicines were mainly of plant origin, we can judge from the most ancient extant samples of writing. One of the Egyptian papyri describes a number of herbal medicines; some of them are still used today (for example, castor oil, etc.). It is known that in ancient Greece, Hippocrates used various medicinal plants to treat diseases. At the same time, he recommended using whole, untreated plants, believing that only in this case they retain their healing power.

Later, doctors came to the conclusion that medicinal plants contain active principles that can be separated from unnecessary, ballast substances. In the II century AD, the Roman physician Claudius Galen widely used various extracts (extracts) from medicinal plants. To extract the active principles from 'plants, he used wines, vinegars. Alcohol extracts from medicinal plants are also used at the present time. These are tinctures and extracts. In memory of Galena, tinctures and extracts are referred to as so-called galenic preparations.

A large number of herbal medicines are mentioned in the writings of the largest Tajik physician of the Middle Ages, Abu Ali Ibn-Sina (Avicenna), who lived in the XI century. Some of these remedies are still used today: camphor, preparations of henbane, rhubarb, Alexandrian leaf, ergot, etc.

In the X—XI century, the first handwritten manuals on pharmacology appeared in Russia. They contained descriptions of medicinal products of plant origin and were called "herbalists", "herbalists". Medicinal plants in those days were sold in green shops along with vegetables. People without medical education often used these plants incorrectly, which led to poisoning.

Free trade in medicinal plants was banned only at the beginning of the XVIII century. By decree of Peter I, medicinal plants were allowed to be sold only in pharmacies. The creation of "apothecary gardens", where medicinal plants were specially grown, dates back to this time. Such vegetable gardens were created in St. Petersburg (now the Botanical Garden in Leningrad), near Voronezh, in Ukraine.

In addition to herbal medicines, doctors used some inorganic medicinal substances. For the first time, substances of inorganic nature were widely used in medical practice by Paracelsus (XV— XVI century). He was born and educated in Switzerland, was a professor in Basel, and then moved to Salzburg. Paracelsus introduced many drugs of inorganic origin into medicine: compounds of iron, mercury, lead, copper, arsenic, sulfur, antimony. Preparations of these elements were prescribed to patients in large doses, and often simultaneously with the therapeutic effect, they showed a toxic effect: they caused vomiting, diarrhea, salivation, etc. This, however, was quite consistent with the ideas of that time about drug therapy. It should be noted that the idea of the disease as something that entered the patient's body from the outside has been held for a long time about medicine. To "expel"

the disease, substances that cause vomiting, diarrhea, salivation, profuse sweating were prescribed, massive bloodletting was used.

Hahnemann (1755-1843) was one of the first physicians who refused treatment with massive doses of drugs. He was born and received medical education in Germany and then worked as a doctor in Vienna. Hahnemann drew attention to the fact that patients who received drugs in large doses recover less often than patients who did not receive such treatment, so he proposed to drastically reduce the dosage of drugs. Having no actual data for this, Hahnemann argued that the therapeutic effect of drugs increases with decreasing dose. Following this principle, he prescribed medicines to patients in very small doses. As experimental testing shows, in these cases, the substances do not have any pharmacological effect. According to another principle, proclaimed by Hahnemann and also completely unfounded, every medicinal substance causes a "medicinal disease". If a "medicinal disease" is similar to a "natural disease", it displaces the latter.

Hahnemann's teaching was called "homeopathy" (homoios — the same; pathos — suffering, i.e., the treatment of like-like), and Hahnemann's followers began to be called homeopaths. Since the time of Hahnemann, homeopathy has changed little. The principles of homeopathic treatment are not justified experimentally. Tests of the homeopathic method of treatment in the clinic, conducted with the participation of homeopaths, did not show its significant therapeutic effect.

The emergence of scientific pharmacology dates back to the XIX century, when individual active principles were first isolated from plants in their pure form, the first synthetic compounds were obtained and when, thanks to the development of experimental methods, experimental study of the pharmacological properties of medicinal substances became possible.

In 1806 morphine was isolated from opium. In 1818 strychnine was isolated, in 1820 - caffeine, in 1832 - atropine, in subsequent years — papaverine, pilocarpine, cocaine, etc. In total, by the end of the XIX century, about 30 similar substances (plant alkaloids) were isolated. The isolation of pure active principles of plants in an isolated form made it possible to accurately determine their properties. This was facilitated by the emergence of experimental research methods.

The first pharmacological experiments were conducted by physiologists. In 1819, the famous French physiologist F. Majandi first investigated the effect of strychnine on a frog. In 1856, another French physiologist Claude Bernard analyzed the action of curare on a frog. Almost simultaneously and independently of Claude Bernard, similar experimen.

The very first laboratory of this kind was established in Russia in Dorpat (Tartu) In 1847, in the 60-70s, pharmacological laboratories were opened at the St. Petersburg Medical and Surgical Academy, at Moscow, Kiev and Kazan universities. Advanced Russian clinicians showed great interest in experimental pharmacology. So, the outstanding surgeon N. I. Pirogov together with A.M. Filomafitskiy conducted an experimental study of the effect of the first narcotic drugs — ether and chloroform — on the animal body. A pharmacological laboratory was established at the clinic of the largest Russian therapist S. P. Botkin, in which

many medicines were studied, including cardiac glycosides, antipyretic substances, bitterness, etc. From 1879 to 1890, this laboratory was headed by I. P. Pavlov, a great Russian physiologist in the future. Thus, I. P. Pavlov began his scientific activity as a pharmacologist and as a pharmacologist gained great fame. Therefore, when in 1890 the position of professor of the Department of Pharmacology of the St. Petersburg Military Medical Academy was vacated, it was offered to I. P. Pavlov, who headed this department until 1895.

Since 1899, the Department of Pharmacology of the Military Medical Academy was headed by N. P. Kravkov (1865-1924). Remaining permanently in this position until 1924, he did an extremely great deal for the development of Russian pharmacology. N. P. Kravkov is rightfully considered the founder of Russian scientific pharmacology. With an unusual gift of scientific foresight, he developed the most progressive and promising directions in pharmacology. One of the first N. P. Kravkov began to study the dependence of the action of medicinal substances on their chemical structure, dose, and the state of the organism they affect. He owns remarkable works on endocrinology, toxicology. N. P. Kravkov paid great attention to the introduction of the achievements of pharmacology in the clinic. For example, they were offered the first means for intravenous anesthesia — hedonal, which he, together with surgeon S. P. Fedorov, tested in the clinic.

The development of pharmacology was greatly facilitated by the activities of such major Russian pharmacologists as A. A. Likhachev (1866-1942), M. P. Nikolaev (1893 — 1949), A. I. Kuznetsov (1898-1951), N. V. Vershinin (1867-1951, V. I. Skvortsov (1879-1958), A. I. Cherkes (1892-1974), N. V. Lazarev (1895-1974), S. V. Anichkov (1892-1981).

The progress of modern pharmacology is connected with the research work carried out in research institutes, at the departments of pharmacology, as well as with the development of the pharmaceutical industry. Before 1917, there were no pharmacological research institutes in Russia, the chemical and pharmaceutical industry was extremely poorly developed and most medicines were imported from abroad. After the Great October Socialist Revolution, a number of special institutes were created in the USSR, where pharmacological problems began to be developed. The number of departments of pharmacology has increased, which also conduct extensive research work. Of particular note is the development of the chemical and pharmaceutical industry in Russia, which currently almost completely meets the country's needs for medicines.

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