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PHARMACOLOGY: HISTORICAL DEVELOPMENT AND TYPES

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ABSTRACT

The article discusses how the brief history of the formation of pharmacology. Moreover, different types of pharmacology are also presented. The difference between pharmacology and pharmacy is explained.

Keywords: pharmacology, history of pharmacology, the types of pharmacology studies, the study of drugs.

INTRODUCTION

Pharmacology is the branch of medicine, biology, and pharmaceutical science concerned with drugs or the effects of drugs, where a drug has a biochemical or physiological effect on a cell, tissue, organ, or organism. can be defined as any man-made, natural, or endogenous (inside the body) molecule that exhibits secretion (sometimes the word "pharmacon" is used as an umbrella term for these endogenous and exogenous biologically active species). It is the science of drugs, their origin, composition, pharmacokinetics, therapeutic use and toxicology. Specifically, it is the study of interactions between a living organism and chemicals that affect normal or abnormal biochemical function. If substances have medicinal properties, they are considered medicinal products.

This field includes drug composition and properties, functions, sources, drug synthesis and design, molecular and cellular mechanisms, organ/system mechanisms, signaling/cellular communication, molecular diagnostics, interactions, chemical biology, therapeutics, medical applications, and antipathogens. include opportunities. The two main branches of pharmacology are pharmacodynamics and pharmacokinetics. While pharmacodynamics studies the effects of drugs on biological systems, pharmacokinetics studies the effects of biological systems on drugs. In a general sense, pharmacodynamics deals with the interaction of chemicals with biological receptors, while pharmacokinetics deals with the absorption, distribution, metabolism, and excretion (ADME) of chemicals from biological systems.

Pharmacology is not synonymous with pharmaceuticals, and the two terms are often confused. Pharmacology, a biomedical science, deals with the study, discovery and description of biologically active chemicals, as well as the explanation of the functions of cells and organisms in relation to these chemicals. In contrast, pharmacy, a health care profession, is concerned with the application of principles learned from pharmacology to clinical settings. In these fields, the main difference between the two lies in the differences between direct patient care, pharmacy practice, and the science-oriented research field driven by pharmacology.

Etymology

The word pharmacology comes from the Greek words "phármakon, pharmakon", "drug, poison" and "logia, -logia" "study", "knowledge".

The modern term "pharmacon" is more widely used than the term "drug", since it includes endogenous substances and biologically active substances that are not used as drugs. They usually include pharmacological agonists and antagonists, as well as enzyme inhibitors (eg, monoamine oxidase inhibitors).

History of pharmacology

The origins of clinical pharmacology go back to the Middle Ages: Avicenna's Laws of Medicine, Peter of Spain's Commentary on Isaac, and John St. Amand's Commentary on the Antidotary of Nicolaus. Early pharmacology focused on plants and natural substances, mainly plant extracts. Medicines are collected in books called pharmacopoeias. Since ancient times, crude drugs have been used to prepare substances from natural sources. At the same time, the active substance of drugs made from plants and spices is not isolated, and the substance loses some of its power when it is diluted with other substances.

Traditional medicine varies by culture and can be culture-specific, such as traditional Chinese, Mongolian, Tibetan, and Korean medicine. However, most of this has since been considered pseudoscience.

In the 17th century, the English physician Nicholas Culpeper translated and used pharmacological texts. Culpeper detailed the plants and the conditions they could treat. Much of clinical pharmacology in the 18th century was created through the work of William Withering. Pharmacology as a scientific discipline did not develop until the middle of the 19th century against the background of the great biomedical renaissance of that time. Until the second half of the nineteenth century, the extraordinary effects and specificity of drugs such as morphine, quinine, and digitalis (angishwonagul) were explained vaguely and in terms of extraordinary chemical potency and affinity for certain organs or tissues. The first chair of pharmacology was created by Rudolf Buchheim in 1847 at the University of Tartu in response to the need to understand how therapeutic drugs and poisons work. Later, the first chair of pharmacology in England was opened in 1905 at University College London.

Pharmacology developed in the 19th century as a biomedical science that applied the principles of scientific experimentation in a therapeutic context. Advances in research methods have stimulated pharmacological research and knowledge. The development of the organ bath, in which tissue samples are connected to recording devices such as a myograph and physiological responses are recorded after drug administration, has made it possible to analyze the effects of drugs on tissues. In 1945, the development of ligand binding assays revealed the binding of drugs to chemical targets. Modern pharmacologists use genetics, molecular biology, biochemistry, and other advanced tools to translate information about molecular mechanisms and targets into treatments for diseases, defects, or pathogens, and to create methods for prevention, diagnosis, and, ultimately, personalized medicine.

The science of pharmacology can be divided into many sub-disciplines, each of which has its own focus.

Pharmacology can also focus on specific systems that make up the body. Sections related to body systems examine the effects of drugs on various body systems. These include neuropharmacology of the central and peripheral nervous system; immunopharmacology in the immune system. Other departments include cardiovascular, renal, and endocrine

pharmacology. Psychopharmacology is the study of the use of drugs that affect the mind and behavior (such as antidepressants) in the treatment of mental disorders (such as depression). Psychopharmacology also includes approaches and methods from neuropharmacology, animal behavior and neuroscience, and is interested in the behavioral and neurobiological mechanisms of psychoactive drugs.

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