

HISTORY OF THE INVENTION AND THE ROLE OF GLUCOCORTICOSTEROIDS IN PULMONOLOGY

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Abstract

Glucocorticosteroids (GCS) are a significant arsenal of clinical medicine, which play a vital role in the treatment of a wide range of diseases of an inflammatory, autoimmune and allergic nature, from the solution of emergency acute situations to the treatment of chronic conditions.

The aim was to study the history of the invention and the role of glucocorticosteroids in pulmonology using the literature data.

The history of the study of GCS began in 1563, when the adrenal glands were described. In 1855, the English doctor Thomas Addison described a rare disease with a fatal course in people with almost destroyed adrenal glands. For the next 100 years, the search and study of the nature of the adrenal glands active substances continued. At the turn of the 19th and 20th centuries, adrenaline was discovered and it became clear that the cortex and medulla of the adrenal glands have different functions. Due to the low concentration of active substances in the tissues of the adrenal glands of animals, the expensive cost of producing extracts and the difficulty of separating similar composition organic substances, the recognition of the active substance of the adrenal cortex (which was a mixture of three dozen substances, six of which were active) took another 50 years. The laboratories of Edward Kendall (USA) and Tadeus Reichstein (Switzerland) had the greatest success in this. Rheumatologist Philip Hench (USA) conducted clinical observations with a deep understanding of the nature of rheumatoid arthritis and the role of the adrenal cortex, which made it possible to use the invented GCS not only for the treatment of Addison's disease, but also in rheumatology and contributed to the discovery of new therapeutic possibilities. The three above named scientists were awarded the Nobel Prize. The chronology of development of systemic corticosteroids is as follows: cortisone (1948), hydrocortisone (1950), prednisone, prednisolone (1954), triamcinolone (1956), methylprednisolone (1957), dexamethasone (1958). In the early 1970s, the first inhaled GCS beclomethasone dipropionate was developed and introduced into clinical practice. GCS have found their place in the treatment of almost all the most common and very rare diseases in pulmonology. Due to the optimal ratio of efficiency and safety, inhaled corticosteroids are an integral part of the treatment of bronchial asthma and some groups of patients with chronic obstructive pulmonary disease.

Key words: glucocorticosteroids, history of the invention, Philip Sh. Hench, Edward C. Kendall, Tadeus Reichstein, role in pulmonology.

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