



BACTERIAL DISEASES OF MICE AND RAT

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Summary

The recommendation for the use of animals in medical fields dates back to 1800's. Ongoing time, animals have been used for training in various sciences. Today it is now possible to create animal models in many scientific researches through research centres for experimental animals. Since the publication of the World Medical Association in 1989, the common consensus worldwide is that use of animals is important for the continued advancement of medicine in biomedical research. Usually, animals are used in the diagnosis and treatment of diseases, in the testing of invasive interventions and in the development of hand skills, and in the development of scientific knowledge. The most preferred species in experimental studies are mice and rats. Mice and rats have been used for many years as a model in various disease treatments. These animals are frequently preferred for the lightening of pathogenesis and the development of treatment facilities for atopic dermatitis, psoriasis, diabetes, hypertension, cardiological diseases, various neurological disorders, hormonal conditions and many other diseases. They are also frequently preferred animal models for efficiency tests and toxicity tests for some substances, microbial studies, genetic research and all kinds of medicine. It is easy to apply and care in mice and rats. They also reach sexual maturity in a short period of 2-3 months. The most important point of using laboratory animals in disease research is possible to watch the disease in a complete living body and metabolism. Complex systems and other factors in the body cannot be formed in cell culture. In addition, it is not possible to make models for disease *in vitro* studies. Although there are many advantages to working with rats, there are disadvantages to working with a living organism. Because mice and rats are living organisms with their own metabolism and requirements, it is not always possible to control all conditions. The most important difficulty in working with mice and rats is that animals experience environmental stress because these animals are very sensitive to environment, smell, heat and moisture. Aseptic conditions, which can be damaged under environmental stress or due to various reasons in production and maintenance, can adversely affect eating habits or weaken immune systems. Therefore, infections caused by commensal bacteria can develop. In this presentation, bacterial diseases in mice and rats will be explained.

Key words: bacteria, mice, rat