Disease outbreaks in Rodent Facilities

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Laboratory rodents in particular mice and rats are frequently used as animal models to understand the disease processes and *in vivo* testing of novel or upgraded drug therapies. A stable and consistent health status of animal models is critical for the reliability and reproducibility of research data. To this end maintaining an exclusive number of microbiotas in the organ systems of laboratory rodents is essential. Therefore, rodent facilities follow strict health monitoring system, hygienic measures, controlled personnel and equipment movement and variable levels of biosecurity barriers to maintain limited number of microorganisms and also to prevent introducing new pathogens into the laboratory rodents and their environment. However, despite the extent of these preventive strategies, occasionally some pathogens can breach through the barrier measures into the facilities causing severe diseases particularly in immunodeficient rodent strains. Some of these outbreaks are a challenge to control and even more challenging to eradicate.

This presentation covers examples of disease outbreaks in mouse colonies explaining how a disease can suddenly erupt even in an unexpected environment, the methods of disease spread and transmission, diagnostic process and disease control and eradication. It also discusses challenges faced when controlling disease outbreaks and the demand for further studies and scientific communications in the field of laboratory animal diseases.

In conclusion, even with extensive biosecurity measures rodent facilities can be exposed to unlikely pathogens. This demands thorough investigation and understanding of health issues in laboratory rodents, and the need for sharing knowledge, promoting research and publications within the field of laboratory animal diseases.