

11th International Conference on**ALLERGY, ASTHMA & CLINICAL IMMUNOLOGY****September 07-08, 2017 | Edinburgh, Scotland****Animal Models of Asthma in drug discovery: Bench to bedside****Dilip Kumar Pandey**
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Statement of the Problem: Asthma is a complex syndrome with many clinical phenotypes in children and adults. Despite the rapidly increasing prevalence, clinical investigation and epidemiological studies of asthma, the successful introduction of new drugs has been limited due to the different disease phenotypes and ethical issues. Number of drugs that have been shown to have some efficacy in animal models of asthma have shown little clinical benefit in human asthmatics. This may be due to a number of factors including the species of animal chosen and the methods used to induce an asthmatic phenotype in animals that do not normally develop a disease that could be characterized as asthma. The range of animal models available is vast, with the most popular models being rodents (inbred mice and rats) and guinea-pigs, which have the benefit of being easy to handle and being relatively cost effective compared with other models that are available.

Despite of many advances in technology, there are a number of issues with current animal models of asthma that must be recognized including the disparity in immunology and anatomy between these species and humans, the requirement for adjuvant during sensitization in most models, the acute nature of the allergic response that is induced and the use of adult animals as the primary disease model.

Research in this area continues to expand, the relative merits and limitations of each model must be defined and understood in order to evaluate the information that is obtained from these models and to extrapolate these findings to humans so that effective drug therapies can be developed. Despite these issues, animal models have been, and will continue to be, vital in understanding the mechanisms that are involved in the development and progression of asthma.

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