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## Guinea pigs, the perfect model for experimental tuberculosis

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Many animal models have been used for TB research for studying the pathogenesis and also the vaccine efficacy. Out of those animal models which are being used, guinea pigs seem to be the best models for experimental TB studies. The reasons behind this are: Guinea pigs are extremely sensitive to infection with *M. tuberculosis* and this model provides an important device for identifying the effective anti-tuberculosis chemotherapy, vaccines as well as the potential role of mycobacterial constituents as virulence factors. This model has been well characterized and it is possible to efficiently infect the animals by aerosol route with a small number of bacilli. The invariably fatal course of disease progression in this model provides a reliable parameter for studying the protection by a candidate vaccine. For vaccine development, reduction or prevention of tissue damage is an important criterion which can be easily assessed in this model. Guinea pigs are peculiar as they develop classical granuloma similar to humans. Other important features of this model are the presence of Langhan's multinucleated giant cells. With progression of active disease, the guinea pigs develop lung tissue necrosis, start losing the weight and die due to the disease like humans. Thus, guinea pig granuloma exhibits many characteristics like the humans. Recently, these animal models are also used for describing latent or dormant tuberculosis infection as noticed in human beings. The use of guinea pigs in characterizing the granuloma which is the hallmark of Tuberculosis and studying the vaccine efficacy of rBCG will be highlighted in the talk.

### Biography

H Shakila has completed her PhD from the Tamil Nadu Dr. MGR University, Chennai and Postdoctoral studies from Tuberculosis Research Centre (currently known as NIRT), an esteemed ICMR Institute in Chennai. She is currently the Associate Professor, School of Biotechnology; Madurai Kamaraj University, India. She has published more than 20 papers in reputed journals and has been serving as a Reviewer Board Member of reputed journals and funding agencies. She has 17 years of teaching experience and 21 years of research experience. Her main areas of research are immunology and immunopathology of infectious diseases like TB and HIV.

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