Mycobacterium Indicus pranii: A Novel Approach to Treat Asthma

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Asthma is one of the most common and significant cause of illness and deaths around the globe affecting millions of people per annum. 15% of world's total population i.e. about 300 million people are currently affected by asthma, and approximately 250,000 people die annually from the disease. It affects people of all age groups, but susceptibility in children is particularly high. Asthma is caused by a combination of genetic and environmental factors, due to over exposure of asthma allergens (pollens, tobacco, smoke, pollution) which involves an immune response against these allergens. The immune system activates TH2 lymphocytes over producing Immunoglobulin E antibodies, through a series of actions that further trigger an airway inflammation, airflow obstruction and bronchial hyperresponsiveness. The symptoms include wheezing, breathlessness, chest tightness, and coughing. Inflammatory process may even cause permanent changes in the airways. The medication use for the treatment of disease is not highly effective with severe side effects like mood swings, cardiac stimulation, diarrhea, bones thinning, adrenal glands suppression and muscle weakness. The devastation caused by the disease prompted us to investigate a novel approach for treating asthma which led us to Mycobacterium indicus pranii, a non pathogenic mycobacterial species. Several experiments and test were conducted on asthmatic BALB/c albino mice strains post immunizing with bacteria. Results establish the efficacy of M. indicus pranii for treating asthma. The bacteria have immunomodulator properties which down regulates allergic reaction. The suggested technique is more efficient, economically feasible, thus, with high potential of commercial value which can be converted into an anti-asthmatic treatment.

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