allied academies Joint Event on
Global Summit on
IMMUNOLOGY AND CELL BIOLOGY
&
Global Congress on
BACTERIOLOGY AND INFECTIOUS DISEASES
June 25-26, 2018 | Amsterdam, Netherlands
Virol Res J 2018, Volume 2

GUT AND INTEGRATED PATHOPHYSIOLOGY OF IMMUNE RESPONSE; OBSERVATIONS FROM EXPERIMENTS IN ORAL TOLERANCE IN MICE AND THE RESPONSE ASSOCIATED WITH A MODEL OF METABOLIC SYNDROME SURGERY

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The gut mucosa is the place that most contact with foreign antigenic proteins occurs and forms with the immune system an integrated, dynamic and adaptive complex that has evolved to provide effective digestion and defense. The whole intestinal area is 100-fold larger than the skin, presents the largest amount of lymphoid tissue of the body and the more number of activated lymphocytes. The Peyer´s patches and the lamina propria of the gut present a very large number of T cells. Immunoglobulin production, especially IgA, that is the only antibody secreted by mucosal, offers the first protection to neonates. For the experiment with Oral Tolerance proposed an protocol in adult Swiss mice by oral administration of a recombinant dermo-necrotic toxin of brown spider Loxosceles intermedia (LiRecDT1) and its mutated form (LiRecDT1H12A) for three weeks. Our results demonstrated evidences of tolerance induction through decrease in IgG anti-dermonecrotic toxin levels, paw edema reduction and increased survey in 24h after challenge. All statistical analysis was performed using ANOVA following Bonferroni's pos hoc test. Related to bowel surgery readjustment we observed that the removal of the greater omentum decreases the secretion of cytokines, particularly IL-6, regressing other diseases associated with obesity such as bronchitis. In conclusion, the intestine can be considered the main immune organ of the body and this association between immunity and digestion begin prior to birth and mediate allergic responses and/or tolerance throughout the life of the individual.

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