

15th International Conference on **Surgical Pathology and Cancer Diagnosis**
&
4th International Conference on **General Practice & Primary Care**

April 15-16, 2019 Berlin, Germany

Probiotics as immune modulators - In prevention of intestinal infection

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Use of probiotics may induce a 'barrier' influence against common pathogens and antigens by activating macrophages, altering cytokines, increasing natural killer cell activity, and/or increasing levels of immunoglobulins. Recognition of in vivo and immunomodulatory roles of probiotic bacteria is now promoting opportunities for use of these microorganisms in many fields, e.g. inflammation, infection and atopy. The survival issues of probiotics are associated with their establishment in the competitive gut ecosystem. Since the generation of immunophysiological regulation in the gut depends on the establishment of indigenous microflora and on the therapeutic interventions based on the consumption of cultures of beneficial live microorganisms that act as probiotics. One of possible mechanisms of probiotics is promotion of a nonimmunologic gut defence barrier, which includes the normalization of increased intestinal permeability (dysbiosis) and gut microecology. The role and effect of probiotics in infant feeding, on the mucosal permeability & microbial flora composition and in turn on the stabilization of Th1/Th2 & IgE production has been tested. Another possible mechanism of probiotics is improvement of the intestine's immunologic barrier, particularly through intestinal immunoglobulin, alleviation of intestinal inflammatory reaction that promote a gut-stabilizing effect. Many probiotics effects are mediated through immune regulation, particularly through balance control of proinflammatory and anti-inflammatory cytokines. So, probiotics can be used as innovative tools to alleviate intestinal inflammation, normalize gut mucosal dysfunction, and down-regulate hypersensitivity reactions. There are differences that exist in the immunomodulatory effects of candidate probiotics bacteria. Specific immunomodulatory properties of Probiotics bacteria should be characterized when developing clinical applications for extended target populations.

Biography

Aziz Koleilat has accomplished his premedical studies at The American University of Beirut, Lebanon. He has completed his Graduation at Charles University Prague, Czech Republic- Pediatric Faculty; Postgraduate studies and training at the Teaching Hospital of Charles University, Prague. He has acquired his first and second attestation at the Institute for postgraduate medical studies Prague, Czech Republic. He was appointed as a Chairman and Director of Pediatric Residency Program of the Department of Pediatrics of Berbir Hospital in Beirut, affiliated to Lebanese University & Saint Josef University. After, Chairman and Director of Pediatric Residency Program at the Makassed University Hospital (affiliated to Lille 2 University, France, The American University of Beirut, The Arab University of Beirut and the Lebanese University). He is a clinical professor of The Arab University of Beirut Beirut. Senior consultant of pediatric gastroenterology and asthma at the Makassed University General Hospital and member of the residency program. He was the first one to establish Pediatric Award for the best research paper for pediatric residents in Lebanon. His interest is in Asthma, child development and nutrition & gastroenterology.

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