Current trends in digestive disorders.

Chi Hin Cho[1]*, Ioannis Kanellos[2], Jenzer Helena[3], Hekmatdoost[4], Francois Boudreau[5]

[1]Chinese University of Hong Kong, China
[2]School of Medicine, Aristotle University of Thessaloniki, Thessaloniki, Greece
[3]Nutrition and Dietetics at Bern University of Applied Sciences, Pestalozzistrasse, Burgdorf, Switzerland
[4]College of Dietitian of British Columbia, Vancouver, Canada
[5]University of Sherbrooke, Sherbrooke, Quebec, Canada

Accepted on April 10, 2017

Introduction

Digestive system is one of the most crucial parts of animal body, which is responsible for the breakdown of macromolecular food particle and accumulation of suitable portion inside the cell for energy conversion. This is the longest organ system in our body. Several experimental evidences have shown that, digestive health is the prime determinant of animal's physical health. Digestive system is also the natural habitat of large number of microbiota colony. Alterations in the quality and quantity of such microbiota colony also have been shown to be reflected in digestive health and diseases and in other organs as well. Disorder in digestive tract is quite common and most of the cases unhealthy food habit and water intake have been reported as the determining entities. Gastroesophageal reflux disease, peptic ulcer, inflammatory bowel disease, irritable bowel syndrome are some of the most commonly affected disorders of gastrointestinal system. Progressive research has provided several medications for such anomalies. However, healthy life style and food habit are the only recommended advice that can avoid such disease pathologies. Present journal 'Archives of Digestive Disorders' is devoted to accumulate all the relevant information on digestive disorders and showcase them for global reach.

Archives of Digestive disorders, publishes the latest findings in the domain of digestive disorders. The current issue of Archives of Digestive disorders presents some interesting findings, which enhance our current understanding of the disease and open up new avenues for their management and cure. Lam et al. [1], investigated the use of Lipoteichoic acid (LTA) in gastric cancer immunotherapy and examined the possible involvement of TLR signaling. Lopez et al. [2] identified a close relationship between Non-Alcoholic Steatohepatitis (NASH) and cardiovascular risk factors in metabolic syndrome patients. Zayed et al. [3], identified that new-onset diabetes mellitus after liver transplantation (NODAT) is prevalent in 27.4% of the liver transplant recipients in Egypt. Chait [4] authored a review on Lower gastrointestinal bleeding (LGIB) in cirrhosis.

Numerous immunotherapy approaches are currently being studied to counter gastric cancer. The Toll like receptor (TLR) signaling is considered to be an important target for anticancer therapy. TLRs play a crucial role in mediating the host immune response by recognizing pathogen-associated molecular patterns (PAMPs). LTA is a surface adhesion molecule from gram-positive bacteria capable of activating the TLR signaling pathway; thereby leading to subsequent cytotoxicity. Lam et al. [1], investigated the use of LTA in gastric cancer immunotherapy and examined the possible involvement of TLR signaling. The authors observed that, LTA induced the expression of induction of TNF-α via the upregulation of TLR2, MyD88, TRAF6, and NF-κB; thereby, markedly inhibiting the proliferation of AGS gastric cancer cells. This was in sharp contrast to Lipopolysaccharide (LPS), a well-known activator of the immune response from gram-negative bacteria, which did not affect either the proliferation of AGS cells, or the TRAF6 and NF-κB levels. The authors therefore posit that these microbial components derived from different bacteria elicit differential outcomes.

Non-Alcoholic Steatohepatitis (NASH) is the hepatic presentation of metabolic syndrome; it is a severe manifestation of Non-Alcoholic Fatty Liver disease (NAFLD). NASH develops in non-alcoholics, and its pathophysiology is indistinguishable from that of alcoholic hepatitis. The pathophysiology of NASH includes attacks on two fronts: (1) development of hepatic steatosis through the accumulation of triglycerides, and (2) cellular assaults such as oxidative stress, apoptosis gut-derived bacterial endotoxins, and pro-inflammatory cytokines. This disease is associated with insulin resistance (IR), and by extension, to type 2 diabetes mellitus, obesity, hypertension, hypercholesterolemia, and hypertriglyceridemia. NASH has been known to morph into more aggressive forms associated with increased cardiovascular risk. Lopez et al. [2], investigated the relationship between hepatic steatosis and cardiovascular risk factors in patients with metabolic syndrome. The authors observed a close relationship between the incidence of NASH and cardiovascular risk factors in patients suffering from metabolic syndrome.

Chronic liver disease (CLD) is rampant in Egypt. It has resulted in increased incidence of end-stage liver disease among Egyptians, for which Liver transplantation (LT) is the only definitive treatment, as of today. Unlike other surgeries, LT carries the risk of a secondary complication, which is new-onset diabetes mellitus after liver transplantation (NODAT). The incidence of NODAT exhibits a huge amount of variation across studies (ranging from 2% to 53%). This might be attributed to multiple factors such as: small sample size, reporting bias, and the parameters used to define NODAT. Zayed et al. [3], investigated the prevalence of NODAT in the Egyptian population. The authors identified that, NODAT is

prevalent in 27.4% of the liver transplant recipients. Further, the study recommends revising the 6 months cut-off to 1 year, for defining transient NODAT. In a key finding, the authors identified post-transplant tacrolimus-based immunosuppression to be a significant predictor of NODAT development.

Lower gastrointestinal bleeding (LGIB) in cirrhosis patients may be associated with severe, life-threatening complications. Achieving a better understanding of LGIB, is extremely difficult, as the data on LGIB in cirrhosis patients is surprisingly small, no large-scale epidemiologic studies are available. Therefore, the true incidence, risks of bleeding, diagnoses, and results of treatment are poorly understood, let alone documented. Much of the LGIB data is from small studies conducted in the general population. Chait [4] has authored a review on our current understanding of this life-threatening phenomenon.

References

1. Lam EKY, Tai EKK, Wu WKK, et al. Differential effects of lipoteichoic acid and lipopolysaccharides on gastric cancer cell proliferation via distinctive involvement of TLR2 signaling mediators. Arch Dig Disord. 2017;1:22-27.
2. Lopez PJT, Rodriguez AC, Sahuquillo A, et al. Nonalcoholic fatty liver disease in patients with metabolic syndrome in primary care. Arch Dig Disord. 2016;1:1-6.
3. Zayed RA, Bahgat MH, Wahab MA, et al. Prevalence and risk factors of new onset diabetes after liver transplantation (NODAT): A single Egyptian center experience. Arch Dig Disord. 2017;1:7-13.
4. Chait MM. Lower gastrointestinal bleeding in patients with cirrhosis. Arch Dig Disord. 2017; 1:14-21.

***Correspondence to:**

Prof. CH Cho
School Biomedical Sciences
Faculty of Medicine
The Chinese University of Hong Kong
Shatin
China
Tel: +852-3943 6886
Fax: +852-2603 5139
E-mail: chcho@cuhk.edu.hk