Obesity Inflammation And The Gut Microbiota

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The Gut Microbiome, Type 2 Diabetes and Metabolic Disease

The Roots of the Obesity Epidemic~~Low in Gut Bacteria and Risk of Obesity and Diabetes~~ **How Inflammation Leads to Obesity (and the Vicious Appetite Cycle it Feeds)**

Top 6 Foods for Gut Health | Dr. Josh AxeDr Jason Fung's top 3 tips for Sugar Free living *You'll Never Guess The Biggest Cause of Inflammation Causing Free Radicals Dr. Mercola Interviews Dr. Jason Fung (Full Interview) How the Gut Microbiome affects the Brain and Mind* ~~HEAL YOUR GUT | 5 steps for digestive healing (+ what I did)~~ *3. Insulin resistance and inflammation* ~~Intermittent Fasting is MEDICINE: Reversing Diabetes \u0026 Obesity ft. Dr. Jason Fung || #61~~ *Probiotics Benefits + Myths | Improve Gut Health | Doctor Mike* ~~How To Get Healthy Gut Flora And Avoid Inflammation with Brenda Davis R.D.~~ ~~Dr. George Bray: Etiology and Pathophysiology of Obesity~~ *Febbraio MA (2014): Inflammation and obesity How to heal your broken gut, with Dr. Michael Ruscio* The Obesity Code (Book Review) *The Obesity Code By Jason Fung: Animated Summary Blood Sugar \u0026 the Gut | Obesity \u0026 the Virus* **How To Lose Weight: Using Gut Health to Fight Diabetes** Obesity Inflammation And The Gut

The biological basis of disease is one avenue for further exploration in this context. Several key inflammatory markers have been consistently associated with both obesity and risk of adverse outcomes in obesity-associated diseases, which suggests that a persistent, low-grade, inflammatory response is a potentially modifiable risk factor.

Obesity, inflammation, and the gut microbiota

Modulation of intestinal permeability through interventions that modify the composition of the intestinal microbiota, or activation of the immune system and associated inflammatory responses, could be a key strategy to address obesity and obesity-related disease.

Obesity, inflammation, and the gut microbiota - The Lancet ...

The biological basis of disease is one avenue for further exploration in this context. Several key inflammatory markers have been consistently associated with both obesity and risk of adverse outcomes in obesity-associated diseases, which suggests that a persistent, low-grade, inflammatory response is a potentially modifiable risk factor.

Obesity, inflammation, and the gut microbiota - ScienceDirect

The interplay between the intestinal microbiota, intestinal permeability, and the immune system depicted as one mechanism linking diet, obesity, and obesity-associated disease.

Obesity, inflammation, and the gut microbiota

Obesity, inflammation, and the gut microbiota Introduction. Obesity is now a global health issue, with overnutrition and excess bodyweight having a similar prevalence... Inflammation as a key component of obesity-associated disease. Inflammation has been implicated in efforts to better... Obesity ...

Obesity, inflammation, and the gut microbiota - ScienceDirect

Foods that fight inflammation. Olive oil. Green leafy vegetables, such as spinach, kale, and collards. Nuts such as almonds and walnuts. Fatty fish like salmon, mackerel, tuna, and sardines. Fruit such as strawberries, blueberries, cherries, and oranges. Coffee.

Obesity and Inflammation: A Vicious Cycle - Does obesity ...

New research suggests a high-fat diet lowers the concentration of an important intestinal immune cell that regulates the microbial population in our gut, and it is through this mechanism that...

Study finds key gut immune molecule links obesity, the ...

Obesity-associated inflammation is triggered by lipopolysaccharide (LPS) derived from the gut microbiota. However, the relationship between gut microbiota, LPS, inflammation, and OA remain unclear. Objective: To evaluate the associations between gut microbiota, systemic LPS levels, serum and local inflammatory profiles, and joint damage in a high fat/high sucrose diet induced obese rat model.

Relationship between inflammation, the gut microbiota, and ...

One of the hallmarks of obesity and obesity-related pathologies is the occurrence of chronic low-grade inflammation . Lipopolysaccharides (LPS), also called endotoxins, which are derived from the outer cell membrane of Gram-negative bacteria, have been thought to initiate the inflammation-related processes associated with the onset of obesity and insulin resistance (Fig. 3) [23].

Impact of the gut microbiota on inflammation, obesity, and ...

Oct. 2, 2008 -- Curbing inflammation in a key part of the brain may help keep down weight, a new study shows. Obesity is known to increase inflammation throughout the body. The new study --...

Breaking the Obesity-Inflammation Cycle

Summary: Conditions related to obesity, including inflammation and leaky gut, leave the lungs of obese patients more susceptible to COVID-19 and may explain why they are more likely to die from the...

Factors inherent to obesity could increase vulnerability ...
Immune cells of both the innate and adaptive immune systems infiltrate the adipose tissue (AT) and during obesity induce inflammatory responses associated with metabolic switches and changes in phenotypes and function of immune cell subsets.

Frontiers | Aging, Obesity, and Inflammatory Age-Related ...
Sugar: Refined sugar is an ingredient in many of the same products as starch, and it is exceptionally damaging to the gut microbiome because it increases the permeability of the gut and leads to obesity and insulin resistance.

Anti-Inflammatory Foods: The Complete Guide ... - The Good Gut
Obesity has been linked to impaired function of the intestinal lining, which can allow bacteria and toxic bacterial products to move from the gut into the bloodstream and then into organs. This condition, often referred to as leaky gut, may result in systemic inflammation, insulin resistance, and other effects on the body.

Enzyme may play key role in obesity-related leaky gut ...
Obesity is frequently observed in patients with inflammatory bowel diseases (IBD), similar to the general population. Obesity may exert a negative effect on the course of IBD as well as reduce the response to treatment. Moreover, it may also be an additional risk factor for vein thromboembolism during the flare.

What Was First, Obesity or Inflammatory Bowel Disease ...
Intestinal microbial composition and function can be altered by a western diet. Alterations in gut microbiome result in host pathologies, including obesity, inflammation, insulin resistance and type 2 diabetes. Metabolic phenotypes like obesity are transmissible via microbiota transfer.

Adipose tissue derived bacteria are associated with ... - Gut
“A high-fat diet altered the gut microbiota composition in an unhealthy direction by increasing the abundance of pro-inflammatory genera, while reducing those considered health-promoting,” the team states. “These obesity-induced changes were antagonized by both calanus oil and exenatide.” High Lactobacillus levels

Calanus oil may halt obesity-related gut microbiota changes
Obesity is an inflammatory disease that is approaching pandemic levels, affecting nearly 30% of the world’s total population. Obesity increases the risk of diabetes, cardiovascular disorders, and cancer, consequentially impacting the quality of life and imposing a serious socioeconomic burden.

Inulin and oligofructose are naturally occurring resistant carbohydrates that have a variety of uses as functional food ingredients. In addition to their role as prebiotics that selectively stimulate the growth of beneficial bacteria in the intestines, these inulin-type fructans act as dietary fiber in the digestive system and have applications as

Scientific context: In the last years, we witnessed an exponential increase of the number of studies demonstrating the connection of gut microbiota diversity, with metabolic and inflammatory status of the host. In the condition of obesity, individuals, including children, display a characteristic low grade inflammation, main responsible for numerous comorbidities. We investigated the effect of the potential probiotic Bifidobacterium pseudocatenulatum CECT 7765 on gut microbiota composition, cardiometabolic risk factors and inflammatory cytokines in obese children with insulin resistance. Method: 48 obese children between 10 and 15 years old received dietary recommendations supplemented by probiotic (109-10 CFU) or placebo, in a double blinded approach, during 13 weeks. Anthropometric, metabolic and inflammatory parameters were assessed at baseline and at the end of the 13 weeks.Results: A global improvement was obtained in the metabolic and inflammatory status of the children of both groups. The BMI and the RBP-4 levels were significantly improved consecutively to the dietary intervention in both the placebo and probiotic recipients. The quality of nutritional intake improved in both groups consecutively to the intervention, without difference between the groups (not shown). In addition of the benefits obtained thanks to the nutritional changes, the children which alimentation was supplemented with Bifidobacterium pseudocatenulatum CECT 7765 displayed a significant improvement in the percentage of fat mass, insulin level, HOMA-IR, C-HDL, homocysteine.Conclusions:Dietary intervention induced a global positive effect on metabolic and inflammatory status, and anthropometric measurements in obese children. A significant improvement was particularly obtained regarding BMI and RBP-4 level in both groups.This positive effect is exacerbated by the intake of Bifidobacterium pseudocatenulatum CECT 7765, with a significant improvement of other values associated to chronic inflammation and metabolic disorder (Fig 2).The intake of this probiotic could be considered as an effective tool to reinforce the effectivity of the dietary intervention recommended in childhood obesity.

This book is the second in a series of two, featuring the Adiposity - Omics and Molecular Understanding, serving as an introduction to modern views on how the adipocytes are reciprocally interacting with organ systems in order to explain the biology of the body's fat cells and how they are integrated with other organ systems, like muscle cells and the liver, in order to control the lipid metabolism in our bodies, to finally preserve a positive balance between white and brown/beige adipocyte tissues (WAT and BAT). The understanding of the "omics" of obesity will therefore enable clinicians and researchers to better pursue the untoward incidents of metabolic deviations from a defined and health-bringing homeostasis, with fully responding WAT and BAT, being able to preserve a healthy balance between fat-producing and fat-metabolizing tissues for the benefit of the host, and thus longevity (optimal health with healthy, well-functioning organ systems) throughout a lifetime.

Composed of nearly a thousand different types of micro-organisms, some beneficial, others not, the human gut microbiota plays an important role in health and disease. This is due to the presence of probiotic or beneficial microbes, or due to the feeding of prebiotics that stimulate the endogenous beneficial microbes: these promote health by stimulating the immune system, improving the digestion and absorption of nutrients, and inhibiting the growth of pathogens. The notable health benefits of probiotic organisms have stimulated much commercial interest, which in turn has led to a plethora of research initiatives in this area; these range from studies to elucidate the efficacy of the various health benefits to analyses of the diet-microbe interaction as a means

of modulating the gut microbiota composition. Research in this area is at a very exciting stage. With state-of-the-art commentaries on all aspects of probiotics and prebiotics research, this book provides an authoritative and timely overview of the field. Written by leading international researchers, each chapter affords a critical insight to a particular topic, reviews current research, discusses future direction and aims to stimulate discussion. Topics range from the different microorganisms used as probiotics (lactobacilli, bifidobacteria, yeast, etc) and techniques and approaches used (metagenomics, etc) to the reviews of the clinical and medical aspects. The provision of extensive reference sections positively encourages readers to pursue each subject in greater detail. Containing 33 chapters, the book is an invaluable source of information and essential reading for everyone working with probiotics, prebiotics and the gut microbiotflora, from the PhD student to the experienced scientist, in academia, the pharmaceutical or biotechnology industries and working in clinical environments.

The Endocannabinoidome: The World of Endocannabinoids and Related Mediators is dedicated to the latest research and studies on endocannabinoids and cannabinoid receptors to illustrate their important role in the discovery of new, endocannabinoid-related, lipid mediators. Written by leading experts across different disciplines, this book focuses on the biochemical and anlayticial aspects of novel lipid signals, their pharmacological activities and their potential utilization for the development of new and effective therapeutic strategies. The first book of its kind, The Endocannabinoidome is a meaningful reference for all those involved in experimental efforts to further the development of this field. Explores the novel and exciting aspects of several endocannabinoid-like molecules for which researchers are still seeking a function Discusses the novel metabolic pathways for endocannabinoids in order to explain the failure of some clinical trials with inhibitors of more conventional metabolic pathways Incorporates pharmacology, biochemistry and potential clinical applications to provide researchers with a complete look at endocannabinoids

Immune response and metabolic regulation are highly integrated and this interface maintains a central homeostatic system, dysfunction of which can cause obesity-associated metabolic disorder such as type 2 diabetes, fatty liver disease and cardiovascular disease. Insulin resistance is an underlying basis for the pathogenesis of these metabolic diseases. Overnutrition or obesity activates the innate immune system with subsequent recruitment of immune cells such as macrophages and T cells, which contributes to the development of insulin resistance. In particular, a significant advance in our understanding of obesity-associated inflammation and insulin resistance has been recognition of the critical role of adipose tissue macrophages (ATMs). ATMs are a prominent source of proinflammatory cytokines, such as TNF-a and IL-6, that can block insulin action in adipose tissue, skeletal muscle, and liver autocrine/paracrine signaling and cause systemic insulin resistance via endocrine signaling, providing a potential link between inflammation and insulin resistance. All articles in this topic highlight the interconnection between obesity, inflammation, and insulin resistance in all its diversity to the mechanisms of obesity-induced inflammation and role of immune system in the pathogenesis of insulin resistance and diabetes.

Fatty acids are considered as a very important category of chemical compounds to human health as well as from an industrial perspective. This book intends to provide an update on fatty acid research, their methods of detection, quantification, and related diseases such as cardiovascular disease and diabetes. Cyclic fatty acids are also covered, along with short chain fatty acids, which are important to the human gut microbiota. Fatty acids are important in the chemical structure of the cell membrane and its pivotal role in this aspect is reviewed herein. The book also contains a chapter that deals with some unpublished molecular aspects concerning the roles of fatty acids in depression and bipolar disorder. All in all, the book provides a brief overview of both highly explored as well as overlooked perspectives of fatty acids, while highlighting its significance as a biochemical molecule, which is imperative to the livelihood of unicellular and multi-cellular organisms alike.

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