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Inflammatory Effects of Foods and Chemicals - Diabetes and Inflammation

At least four of the ten leading causes of death in the USA – diabetes, heart disease, stroke, and cancer – are directly related to the way we eat. Diabetes is a chronic, progressive illness that requires continuing medical care and patient self-management to prevent acute complications and to reduce the risk of long-term complications. Diabetes has a significant impact on the health, quality of life, and life expectancy of individuals, as well as on the healthcare system. Along with diabetes medications and physical activity food choices play a critical role in diabetes management. The control of diet, exercise and behavior are the cornerstone for the management of diabetes. Evidence suggests that inflammation is the underlying cause of the long term complications resulting from uncontrolled diabetes.

Health begins with digestion since digestive problems affect nutrient absorption and wellness in all areas of our lives. A stressed digestive tract is a primary source of inflammation. Allergies, food sensitivities, parasites, yeast overgrowth, and emotional stress can all inflame the GUT and affect nutrient absorption.

Inflammation is the body's response to injury, and it is common in many tissues. This protects us against pathogens and infections. Inflammation can be acute or chronic. Reducing chronic inflammation is important for health because current research shows that inflammatory disorders are the underlying cause of most chronic diseases and inflammation is linked to oxidative stress.

Cytokines are proteins produced and released by the cells in the immune system that help regulate immune response. Overproduction or inappropriate production of certain cytokines by the body can result in disease.

Oxidative Stress occurs when free radicals outnumber protective antioxidant defenses. Free radicals cause oxidative / DNA damage to cells and this results in inflammation. Type 2 diabetes is associated not only with increased reactive oxygen species, but in many instances with a reduction in these antioxidant defenses as well. Individuals with diabetes frequently have elevated levels of oxidative stress and are considered to be in a chronic pro inflammatory state.

The four basic types of triggers that result in chronic inflammation are: Toxin exposure, Dysglycemia, Oxygen metabolism, and Immune-mediated adverse food reactions.

Nutrients in food provide the foundation for health and the gastrointestinal health is very important for nutrient absorption. Digestion and absorption of nutrients in food is compromised by food allergies, food intolerances, food sensitivities, and toxic reactions to endogenous and exogenous chemicals in foods. Conversely the ability to properly digest foods extract and absorb nutrients can be compromised by luminal hypersensitivity reactions to benign antigens or food additives creating a vicious cycle which is difficult to break without patient specific intervention based on specific identification of food allergies, non-allergic hypersensitivities and toxic chemical reactions.

It is important to be certain to become aware of signs and symptoms associated with allergic and non-allergic hypersensitivities to foods and food additives. There are now new tests available and dietary interventions based on those technologies have shown

significant benefits. Interventions focused on restoring balance in oxidative metabolism will work simultaneously to reduce the effects of oxidative stress as an inflammatory trigger, as well as release of reactive oxygen species as a mediating response of the body.

Resources/References

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News Author: Laurie Barclay, MD
CME Author: Désirée Lie, MD, MSEd

CME Released: 05/14/2009; Valid for credit through 05/14/2010

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Resources

Almonds Are In: www.AlmondsAreIn.com

DASH Diet: www.DASHdiet.com

Eat Right: American Dietetic Association www.eatright.org

Food for Life TV: http://www.foodforlife.tv/

CEUs4U: www.ceu4u.net

Nutrition MD: http://www.nutritionmd.org/index.html

Nutrient Rich Foods Coalition: www.NutrientRichFoods.org

PCRM Food for Life Resources for Diabetes: http://www.pcrm.org/health/diabetes/

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Resistant Starch: http://en.wikipedia.org/wiki/Resistant_starch

VitaSearch: Clinical Pearls Online Weekly Research Updates
http://www.vitasearch.com/CP/weeklyupdates/