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Austin Quan Yin Newsletter
The Better Health News

Special Interest Articles:

Diabetic Neuropathy and Alpha Lipoic Acid

The nerves of your body that are not part of your brain or spinal cord are known as peripheral nerves. When the peripheral nerves are damaged, or not working properly, that is known as neuropathy. A polyneuropathy is a neuropathy pattern that involves both feet and both hands. Another word for this pattern is a Stocking and Glove Neuropathy. Commonly patients feel pain, numbness, tingling, burning, weakness or loss of feeling in the affected area. Many time patients with polyneuropathy do not have any symptoms; in this case the diagnosis is made by a physical examination or a laboratory test (electromyography (EMG) and nerve conduction velocity test (NCV)). Neuropathy is a problem that is commonly experienced by diabetics.

A randomized, double-blind, placebo-controlled study was published in *Zhonghua Yi Xue Za Zhi*. (2007 Oct 16; 87(38):2706-9); it looked at the affect supplementation with alpha-lipoic acid had on diabetic polyneuropathy. The subjects of the study were 460 diabetic patients with mild to moderate distal symmetric sensorimotor polyneuropathy. For a period of four years they were given either a placebo or 600 mg/day of alpha-lipoic acid.

Dementia and DHA

Docosahexanoic Acid is DHA, an omega-3 essential fatty acid that is found in fish oil. A number of studies have linked it to improved mood and cognition. A number of earlier studies have associated low omega-3 levels. Research appearing in *Biological Psychiatry* (1 July 2007; Volume 62, Issue 1, Pages 17-24) actually looked at the DHA content in the frontal lobes of deceased patients with major depressive disorder (on autopsy) and compared the fatty acid content in deceased patients without depression. The only fatty acid that was significantly different between the two groups was DHA, which was 22% lower in the depressed patients.

Gluten and Liver Disease

Celiac disease is characterized by gluten insensitivity; it damages the small intestine and interferes with nutrient absorption. Symptoms often include abdominal pain, gas, fatigue, and diarrhea. It is associated with other immune system disorders as well, including autoimmune hepatitis

In a study published in the journal *Gastroenterology* (April 2002; 122:881-888), describes case histories of four patients with liver disease who also had celiac disease (gluten allergy). Gluten free diets reversed the liver dysfunction in these cases (one patient did not adhere to a gluten-free diet and the disease progressed until he needed a liver transplant). Two of the patients who managed to stay on the gluten-free diet, maintained good liver function. The researchers then looked at the prevalence of celiac disease in patients awaiting liver transplant and found that 4% of 185 patients had celiac disease.

Celiac disease is characterized by gluten insensitivity; it damages the small intestine and interferes with nutrient absorption. Symptoms often include abdominal pain, gas, fatigue, and diarrhea. It is associated with other immune system disorders as well, including autoimmune hepatitis. The authors of this study believe that celiac disease should be investigated for all cases of autoimmune hepatitis or any hepatitis of unknown origin.

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Eat Breakfast to Keep Weight Off

A study appearing in the *European Journal of Clinical Nutrition* (2009; 63, 405-412) found an association between skipping breakfast and becoming overweight or obese. Information was gathered about breakfast, physical inactivity and alcohol consumption in 25,176 teen-aged subjects. The researchers found that skipping breakfast had a stronger association with being overweight obese—stronger than alcohol consumption or physical inactivity.

Other research appearing in Family Practice News (May 15, 2003:10) looked at 1,943 adults between the ages of 25 and 37 and found that those who ate breakfast seven days per week were less likely to be obese, or to have insulin resistance. The risk for insulin resistance was between 37% and 55% lower for regular breakfast eaters than for those who ate breakfast seldom or never.

Gluten and Mental Health

Research appearing in *Schizophrenia Bulletin* (2011 Jan; 37(1):94-100) looked at the connection between celiac disease and mental disorders. Celiac disease and schizophrenia have approximately the same prevalence, but epidemiologic data show higher prevalence of celiac disease among schizophrenia patients. The study's goal was to evaluate antibody prevalence to gliadin (AGA), transglutaminase (tTG), and endomysium (EMA) in a group of individuals with schizophrenia, compared to a normal group. AGA, tTG, and EMA antibodies were assayed in 1401 schizophrenia patients who were part of the Clinical Antipsychotic Trials of Intervention Effectiveness study and 900 controls. Psychopathology in schizophrenia patients was assessed using the Positive and Negative Symptoms Scale (PANSS). Logistic regression was used to assess the difference in the frequency of AGA, immunoglobulin A (IgA), and tTG antibodies, adjusting for age, sex, and race. Linear regression was used to predict PANSS scores from AGA and tTG antibodies adjusting for age, gender, and race. Among schizophrenia patients, 23.1% had moderate to high levels of IgA AGA compared with 3.1% of the comparison group. Moderate to high levels of tTG antibodies were present in 5.4% of schizophrenia patients vs 0.80% of the comparison group. Adjustments for sex, age, and race had trivial effects on the differences. Regression analyses failed to predict PANSS scores from AGA and tTG antibodies. Persons with schizophrenia have higher than expected titers of antibodies related to CELIAC DISEASE and gluten sensitivity.

In the journal *Bipolar Disorders* (2011 Feb; 13(1):52-8), the authors looked at the connection between gluten sensitivity and bipolar disorder. They examined the levels of antibody reactivity to gliadin, delaminated gliadin, and tissue transglutaminase (tTG) in individuals with bipolar disorder and compare these levels to those in individuals who do not have any history of psychiatric disorder. Individuals with bipolar disorder had increased levels of IgG antibodies to gliadin compared with controls in multivariate analyses. They also found evidence of increased levels of antibodies to delaminated gliadin in the bipolar disorder population. Individuals with bipolar disorder had increased levels of IgG antibodies to gliadin. They did not have an elevation in IgA antibodies to gliadin or the celiac disease-associated antibodies against delaminated gliadin and tTG. These results warrant further detailed examination of the molecular specificity and pattern of reactivity of the antibody response to gluten antigens in bipolar disorder. Still, it may be prudent to remove gluten from the diets of these patients.

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Thinking of Becoming Pregnant? Check for Gluten Sensitivity

We all know that the mother's diet can affect the health of her fetus. If the mother is sensitive to gluten and does not know it, there can be serious health repercussions for the unborn baby. For one thing, the birth weight is affected. Research appearing in the journal *Human Reproduction* (2010 Feb; 25(2):528-34) looked at this issue. A total of 1,504,342 babies were born to 836,241 mothers during the study period. Of those, 1105 babies were born to women with diagnosed celiac disease and 346 were born to women with undiagnosed celiac disease. Women with untreated celiac disease delivered smaller babies and had a greater risk of having a VSGA (very small for gestational age--in the 5th percentile of birth weight) as compared to women diagnosed with celiac disease who avoided gluten. Women with untreated celiac disease also had a higher risk delivering preterm.

Another study, appearing in *Gastroenterology* (2005 Aug; 129(2):454-63) had similar findings. A national register-based cohort study restricted to women aged 15-44 years with singleton live born infants was used. They identified 2078 offspring to women who had received a diagnosis of celiac disease; 1149 offspring to women diagnosed prior to birth and 929 offspring to women diagnosed after infant birth. Main outcome measures included: intrauterine growth retardation, low birth weight (<2500 g), very low birth weight (<1500 g), preterm birth (<37 gestational weeks), very preterm birth (<30 gestational weeks), and caesarean section. There was an association between undiagnosed celiac disease and a risk of intrauterine growth retardation, low birth weight, preterm birth and Caesarian section.

There may even be a connection between mental health and maternal gluten sensitivity. In a study appearing in *The American Journal of Psychiatry* (VOL. 169, No. 6, June 1, 2012), the authors analyzed archival dried blood spots obtained from newborns to assess whether levels of immunoglobulin G (IgG) directed at dietary antigens were associated with a later diagnosis of a nonaffective psychotic disorder. The study population consisted of individuals born in Sweden between 1975 and 1985 with verified register-based diagnoses of nonaffective psychoses made between 1987 and 2003 and comparison subjects matched on sex, date of birth, birth hospital, and municipality. A total of 211 case subjects and 553 comparison subjects consented to participate in the study. Data on factors associated with maternal status, pregnancy, and delivery were extracted from the Swedish Medical Birth Register. Levels of IgG directed at gliadin (a component of gluten) and casein (a milk protein) were analyzed in eluates from dried blood spots by enzyme-linked immunosorbent assay (ELISA). Odds ratios were calculated for levels of IgG directed at gliadin or casein for nonaffective psychosis.

The authors found that anti-gliadin IgG (but not anti-casein IgG) above the 90th percentile level observed among comparison subjects were associated with nonaffective psychosis (odds ratio=1.7, 95% CI=1.1–2.8). This association was not confounded by differences in maternal age, immigrant status, or mode of delivery. However, gestational age at birth, ponderal index, and birth weight were not related to maternal levels of anti-gliadin IgG. have higher than expected titers of antibodies related to CELIAC DISEASE and gluten sensitivity.

Can Berries Protect Your Brain?

Oxidative stress is a situation where chemical "bullets", like electrons or radiation create damage to living tissue. The nutrients and phytochemicals that we call antioxidants work like chemical "bullet-proof vests", protecting the cells. Extracts from blueberries and strawberries act as antioxidants. According to research appearing in *Neurobiological Aging* (July 10, 2006 [e published ahead of print]), berry extracts can protect the brain. Male rats were divided into three groups. One group was fed a daily extract from strawberries, one group was fed an extract from blueberries, and the other acted as a control. After eight weeks, half of the rats in each group were exposed to radioactive iron (which is known to cause cognitive decline).

The rats in the control group experienced decreased levels of brain activity and had poor performance with tasks related to memory after being exposed to the radiation. The rats receiving the berry extracts fared much better. In particular, the group that received the strawberry extract had better performance with activities related to spatial location and those receiving blueberry had improvement in learning ability. Berries may slow the aging of the brain and protect it from oxidative damage.

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Bioflavonoids Protect the Nervous System

Bioflavonoids are natural antioxidants formed by plants. Three such compounds, hesperidin, hesperetin and neohesperidin, are found in citrus fruit. Research that appeared in the *Journal of Agricultural and Food Chemistry* (published on line Jan, 2008, ahead of print) showed that bioflavonoids protect cells from damage. The researchers injected cells with the different concentrations of the bioflavonoids and then injected the cells with hydrogen peroxide (to create oxidative stress and cell destruction). They found that all three of the bioflavonoids acted to protect the cells, reducing cell loss and preventing membrane damage from the peroxide. They also increased the activity of the antioxidant enzyme, catalase.

The activity of citrus bioflavonoids may act to protect the nervous system. More researchers are considering the idea that Alzheimer's disease if from a build up of beta amyloid plaques, which are associated with an increase in cell damage and death from oxidative stress.

Gluten and Irritable Bowel

Happiness is nothing more than good health and a bad memory.—*Albert Schweitzer*

The symptoms of irritable bowel syndrome (IBS) may be due to celiac disease in some patients. Research appearing in the *Lancet* (November 3, 2001; 358:1504-1508) compared 300 patients with celiac disease to 300 healthy controls. Of the IBS patients, 66 patients with had positive antibody results, indicating gluten sensitivity. Of the 66, 14 had celiac disease (11 EMA [epithelial membrane antigen] positive, three EMA negative). Nine patients with positive antibody results were lost to follow-up or refused biopsy (only one EMA-positive patient refused biopsy), and 43 had normal duodenal mucosa. Only two of the controls had celiac disease. Compared with matched controls, IBS was significantly associated with celiac disease.

Research appearing in *Gastroenterology* (2004; 126(7):1721-1732) suggests that many patients with irritable bowel syndrome (IBS) may have celiac sprue (sensitivity to gluten, a protein present in wheat, oats, rye and other grains). As many as 75% of the patients with celiac sprue have IBS symptoms. When screening for celiac sprue in 4000 subjects with no symptoms, one in 133 was found to be gluten intolerant. The incidence may be as much as seven times higher in patients with IBS.

If gluten sensitivity is an issue, giving digestive enzymes may be a good idea. A double-blind, placebo-controlled study appearing in the *Scandinavian Journal of Gastroenterology* (2005; 40(11): 1304-12) looked at the use of digestive enzymes in 21 patients with celiac disease (seen on biopsy). All of the subjects were on a gluten-free diet and their disease was in remission. They were randomly divided into two groups, with one group receiving digestive enzymes and the other receiving a placebo. Both groups were then given crackers on a daily basis (0.9 grams of gluten/day). After a 10-week washout period, the roles were reversed with the placebo group getting the supplement and vice-versa. Eight of the 21 patients (38%) had more than 5 episodes of moderate to severe symptoms during either of the gluten challenge periods, and in these, symptoms scores were ameliorated during enzyme therapy compared with the placebo period ($p<0.02$).