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Austin Quan Yin Newsletter

The Better Health News

Special Interest Articles:

- Gluten sensitivity and liver failure
- Acetaminophen and liver damage
- CRP and fatty acids
- Blood pressure and pain control
- Enzymes and pain
- Milk thistle and lung cancer
- Glucosamine and chondroitan

SJÖGREN'S SYNDROME

Sjögren's syndrome is an autoimmune disease where the immune system attacks moisture producing glands. Generally the patient has dry eyes and dry mouth, but the disease may also affect other organs, including the GI system, the kidneys, blood vessels, lungs, liver, central nervous system and pancreas. In the United States there are nearly 4,000,000 patients with this disease. They often experience extreme fatigue and joint pain. They have a high risk of developing lymphoma.

Low levels of sex hormones are associated with the disease and severity of symptoms. Research appearing in the *Journal of Clinical Endocrinology and Metabolism* (Mar. 24, 2009; Epub ahead of print) tested DHEA supplementation in patients with Sjögren's syndrome. At the start of the nine-month long, double-blind, placebo-controlled study, subjects with primary Sjögren's syndrome had low levels of DHEA and DHEA sulfate. Supplementation improved blood levels and decreased the symptom of dry mouth.

Fatty acid supplementation may also be of value. A study appearing in the journal *Prostaglandins, Leukotreines and Essential Fatty Acids* (1998;59(4):239-245) found that low DHA levels in cell membranes were associated with more severe symptoms in patients with primary Sjögren's syndrome. Primary Sjögren's syndrome is when the disease exists alone, without the presence of another autoimmune disease. About half of all patients have a second autoimmune disease along with the Sjögren's syndrome, and half do not have a second disease.

Psych Drug Use Increasing

In the decade between 1996 and 2006 the use of anxiety medication, anti depressants, and antipsychotic drugs has increased by 73% in adults and by 50% in children. In those over 65, the use of the drugs has doubled in the same time period. In 2006 16% of the elderly were on some sort of psychotropic medication. In the same time period, the number of children diagnosed and treated for mental health conditions doubled. This data was obtained by researchers from the National Center for Health Statistics, the Agency for Healthcare Research and Quality, the Substance Abuse and Mental Health Services Administration and the Social Security Administration.

Liver Failure and Gluten Sensitivity

Celiac disease is characterized by gluten sensitivity; it damages the small intestine and interferes with nutrient absorption.

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 sensitivity; 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—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.

ACETAMINOPHEN AND LIVER DAMAGE

ALT stands for alanine aminotransferase; it is a substance that is released into the blood when liver cells are damaged. ALT levels in the serum will give you an idea if there is any liver cell damage occurring. A randomized, single-blind, placebo-controlled, 5-treatment, parallel-group, inpatient, diet-controlled (meals provided), longitudinal study of 145 healthy adults, appearing in the *Journal of the American Medical Association* (Vol. 296 No. 1, July 5, 2006) indicates that acetaminophen use, even a recommended doses, causes liver damage. The subjects were given either four grams of acetaminophen (the maximum recommended daily dose) or a placebo for 14 days. The use of the acetaminophen increased ALT levels to nearly five times normal in 19% of the participants. No such increases were noted in the placebo group.

CRP and Essential Fatty Acids

CRP is C-reactive protein. It is a globular protein; its levels increase in the presence of inflammation. Elevated CRP is associated with an increased risk for heart disease. It is also associated with an increased risk for death from other causes. Research appearing in *Clinical Chemistry* (2008 Feb;54(2):335-42) verifies this. CRP is also associated with depression, cognitive decline and stroke, according to a meta-analysis of 19 studies appearing in *Lancet Neurology* (2005; 4(6): 371-380).

Omega-3 fatty acid consumption may play a role in lowering CRP levels. In the journal, *Nutrition Research* (2008; 28(5):309-14), a cross-sectional study involving over 440 Japanese women found that dietary intake of omega-3 fatty acids was inversely proportional to CRP levels.

A study appearing in the *European Journal of Clinical Nutrition* (epub ahead of print April 8, 2009) looked at omega-3 fatty acid levels and compared them to CRP levels in 124 adults. The study found that there was an inverse relationship between CRP levels and omega-3 fatty acid levels.

Another study, appearing in the journal *Atherosclerosis* (Volume 201, Issue 1, November 2008, Pages 184-191) looked at dietary intake of omega-3 fatty aicds and CRP levels in 14,191 subjects between the ages of 40 and 69 years. This study found that omega-3 fatty acid consumption was inversely associated with CRP levels. The authors concluded, "Sufficient dietary intake of n-3PUFA may attenuate inflammatory reaction and this effect is more evident among high-risk populations such as male smokers although the small numbers of female ex-smokers and nonsmokers limited statistical power to draw strong conclusions about these groups." Similarly, research appearing in the *American Journal of Clinical Nutrition* (2006; 84(1): 223-9) and *Nutritional Research* (2008; 28(5): 309-14) also found an inverse relationship between omega-3 fatty acid consumption and CRP.

It makes sense. CRP is an indicator of low-grade, sustained inflammation. There is a large body of research establishing that omega-3 fatty acids are anti-inflammatory. So it stands to reason that omega-3 fatty acid consumption should help to bring CRP levels under control.

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Pain Control and Blood Pressure

One way to reduce inflammation is to "change the patient's oil". There is a large body of research showing that omega-3 fatty acids are anti-inflammatory. There is a good reason to choose omega-3 fatty acids over pain medication—blood pressure.

According to research published in the *Archives of Internal Medicine* (October 28, 2002;162:2204-2208), frequent use of pain-relief medications may result in an increased-risk of high blood pressure in women. These drugs are known as NSAIDs (non-steroidal anti-inflammatory drugs). Use of acetaminophen (eg Tylenol) was also monitored in this study. Acetaminophen is not an NSAID, it addresses pain, but not inflammation.

NSAIDs work by blocking hormone-like substances known as prostaglandins, some of which cause inflammation. Prostaglandins also dilate blood vessels. If they are chemically blocked by NSAIDs, blood vessels may narrow. This can lead to hypertension.

The health of 80,000 women, all of whom did not suffer from hypertension was monitored. Frequency of the use of pain medication (including aspirin, NSAIDs and acetaminophen) was noted and compared with the number of diagnosed cases of hypertension after two years. Use of NSAIDs 22 days or more each month increased the risk of high blood pressure by about 86%. Women using acetaminophen 22 days or more each month were almost twice as likely to have high blood pressure than those who did not. Aspirin users did not experience the increased risk of high blood pressure. Researchers concluded that over use of pain medications could be responsible for a large portion of the hypertension cases in the United States.

According to a double-blind, placebo controlled study appearing in the *Journal of Nutrition* (2007 Apr;137(4):973-8), a small amount of DHA (docosahexaenoic acid) can moderately reduce blood pressure. The 38 male subjects were randomized to receive either 700 mcg of DHA or a placebo each day of the three month study. The study paused for four months and the role of the subjects were reversed, with the original placebo group receiving the supplement and the original supplement group receiving the placebo. Overall, subjects taking DHA had a diastolic blood pressure that was lower by 3.3 mm Hg. Heart rate was also lower in the DHA group, by 2.1 beats per minute.

A cross-sectional epidemiological study appearing in the journal, *Hypertension* (2007;50:313-319) looked at blood pressure in relationship to 4,680 subjects. Blood pressure was measured eight times over four doctor visits. The researchers found an inverse relationship between omega-3 fatty acid consumption from food.

A meta-analysis of studies relating fish-oil consumption to blood pressure appeared in the *Archives of Internal Medicine* (June 28, 1993;153:1429-1438). In 11 studies, it was found that omega-3 fatty acids reduced blood pressure in people with normal blood pressure. Another six studies found that omega-3 fatty acids reduced blood pressure in hypertensive individuals. The greatest blood pressure reduction was in individuals with the highest blood pressure.

Enzymes and Pain

Research appearing in the *Journal of Strength and Conditioning Research* (2007 Aug;21(3):661-7) looked at the effect protease enzyme supplements had on muscle damage after exercise. The double-blind, placebo-controlled study involved twenty male subjects who were tested for the strength, pain (rated by subjective questionnaire), and indicators of muscle damage (creatine kinase activity and myoglobin concentration). They were given either an enzyme supplement or a placebo. It was found that supplementation reduced strength loss immediately after exercise.

In *Clinical Experimental Rheumatology* (Jan-Feb;24(1):25-30) compared enzyme supplementation to NSAID use in patients with osteoarthritis of the hip. The double-blind, placebo controlled study lasted six weeks and involved 90 subjects and found that enzyme to be comparable to the drug in relieving pain, joint stiffness and improving function.

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Milk Thistle and Lung Cancer

Flavonoids are plant pigments that act as antioxidants, protecting the plant from the oxidative stress of photosynthesis. They act as antioxidants for humans who eat the plants as well. Silibinin is a flavonoid found in milk thistle. Flavonoids from milk thistle, like silibinin and silymarin have been shown to protect the liver from alcohol, drugs and poisons and to promote healing and recovery in the liver. Silibinin has even shown to be of some value in protecting against liver cancer, according to a study appearing in the *World Journal of Gastroenterology* (2007 Oct 28:13(40):5299-305). Research, appearing in the *Journal of the National Cancer Institute* (2006 Jun 21;98(12):846-55), shows that silibinin may inhibit lung cancer as well.

The researchers injected mice with an substance that causes cancer. The mice were then divided into groups and given varying amounts of silibinin in their diets. After 18 weeks mice receiving silibinin had 38% fewer tumors than those that did not receive the flavonoid. At the end of 29 weeks, the supplemented mice had 70% fewer tumors than the controls.

"The first wealth is health"
—Ralph Waldo Emerson

Glucosamine and Chondroitan—Beyond Arthritis

There are a number of studies that support the use of glucosamine and chondroitan for arthritis pain. A recent double-blind study appearing in the *New England Journal of Medicine* (2006; 354(8): 795-808) looked at 1,583 patients with osteoarthritis in the knee. The study was looking at pain reduction over a 24 week period. If found that patients with moderate to severe knee pain experienced a reduction in pain when placed on a combination of glucosamine and chondroitan supplements.

Of course these supplements help to repair and strengthen cartilage and are not primarily used for pain relief. Still, many of the studies focus on pain and compare the supplement to popular pain medications. Interestingly, the supplements usually compare favorably to the pain medications. The fact that glucosamine and chondroitan can improve the health of the cartilage to actually give an arthritis patient some pain relief is a testament to how effective they can be.

One study appearing in *Eksp Klin Farmakol* (2002 Nov-Dec; 65(6): 67-9) looked at glucosamine and its capacity to repair cartilage in traumatic arthritis and keratitis in the cornea following trauma. It found that supplementation with glucosamine hydrochloride improved the healing of connective tissue. Another study, appearing in *Osteoarthritis Cartilage* (2003;11:335-342) found that glucosamine and chondroitan greatly improved cartilage's response to both chemical and structural stress.

Glucosamine and chondroitan supplements can offer protection to the joint and can improve healing after injury. Supplementation may therefore be of value to performance athletes. There is one caution; if you are allergic to shellfish, be aware that almost all glucosamine products contain shellfish.