

# Austin Quan Yin Newsletter

## The Better Health News

### Special Interest Articles:

- ADHD and B Vitamins
- B Vitamins and Postpartum Depression
- ADHD
- Arthritis and Bowel Flora
- Children with Peanut Allergies
- Acupuncture and Arthritis
- Grape Seed Extract and Alzheimer's Disease

## Iodine and Child Development

Research appearing in the *Journal of Pediatrics* (epublished ahead of print April 12, 2011) looked at the relationship between maternal thyroid function, iodine levels and child development. The level of free thyroxine in the mothers of the children in the study was measured during the first trimester of pregnancy. The 86 children involved in the study were evaluated using the Bayley Scale of Infant Development at 12, 18 and 24 months of age. Researchers found that there was a relationship between the mothers' free thyroxine levels

and the children's psychomotor development at ages 18 months and 24 months. The children of mothers in the bottom 25th percentile of free thyroxine levels tended to be more developmentally delayed as compared to children of mothers with higher thyroxine levels. The authors of the study implicated that these findings demonstrate the need for iodine supplementation before conception, as well as during pregnancy and lactation.

## Anxiety and Chamomile

Research appearing in the *Journal of Clinical Psychopharmacology* (2009 Aug;29(4):378–382) looked at the effect chamomile extract had on anxiety. The subjects of the study were 57 people who were given either a standardized chamomile extract (220 mg. of extract obtained from German chamomile standardized to contain 1.2% of apigenin) or a placebo for eight weeks. The dosage was gradually increased

from one capsule per day to up to five capsules per day in some of the subjects. The Hamilton Anxiety Rating (HAM-A) to rate the extent of the subjects' anxiety. Dosage increases were based on the anxiety test scores. Compared to placebo, the group receiving the chamomile extract experienced greater improvement in their HAM-A scores compared to the placebo group.

## ADHD and B Vitamins

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A study published in the *Journal of Learning Disabilities* (May, 1982;15(5):258-264) looked at B vitamin supplementation and hyperactivity or cerebral dysfunction. The subjects of the study were 100 children who were either hyperactive or had cerebral dysfunction. They were given 100 mg of thiamin qid, calcium pantothenate (source of B<sub>5</sub>) twice daily, 50 mg of B<sub>6</sub> twice daily or a placebo for three days. If the subjects responded to the vitamin therapy, they were given the supplements a second time, this time for one week. Then were alternated between supplementation and placebo. Those who did not respond well to the initial vitamin therapy were given large doses of B complex, niacinamide or put on an elimination diet.

Hyperkinetic cerebral dysfunction exists for many and varied reasons. Different subjects responded to different aspects of the therapy. Eight of the children in the initial sampling responded to the high-dose thiamin, with four of them needing continued doses of thiamin. Nine of the children responded to the B<sub>6</sub>, with five more responding to an even higher dose of vitamin B<sub>6</sub>. Eight of the children responded to a hypoallergenic diet (the Feingold diet). The point is that different children respond to different therapies and there is no "one size fits all" solution for this particular health issue.

## B Vitamins and Postpartum Depression

According to a study "Dietary Folate and Vitamins B<sub>12</sub>, B<sub>6</sub>, and B<sub>2</sub> Intake and the Risk of Postpartum Depression in Japan: The Osaka Maternal and Child Health Study," Miyake Y, Sasaki S, et al, *J Affect Disord.*, 2006 June 29), B vitamin intake may help to prevent postpartum depression. The subjects of the study were 865 Japanese women who filled out dietary data questionnaires during their pregnancy. Of

the group, 121 developed depression between two and nine months postpartum (scored 9 or higher on the Edinburgh Postnatal Depression Scale). Women who had diets high in riboflavin (vitamin B<sub>2</sub>) were less likely to suffer from postpartum depression than those who had diets that were low in vitamin B<sub>2</sub>.

## ADHD

A small pilot study published in the *Journal of Alternative and Complementary Medicine* (2007 Dec;13(10):1091-7) assessed the treatment of 10 subjects with multiple natural therapies, including chelation, nutrition, environmental control, behavioral therapy, speech therapy, physical therapy and educational therapy. The subjects were aged 4-10 and had been diagnosed with both autism spectrum disorder and ADHD. They were treated with a comprehensive program of natural therapies for 3-6 months. The results were judged by doctors, teachers and parents. All ten children demonstrated significant improvement in language skills, writing, behavior and social interaction. Also, urinary lead levels dropped in all of the subjects.

Granted, this was a small study. It was not double-blind or placebo controlled. It does, however bring up the interesting possibility that children with ADHD may respond to a comprehensive program of natural therapies. It makes sense to use a multi-faceted approach and try to develop a safe and natural way to address this complex problem. A larger, objective study would be interesting to see.

Essential fatty acids seem to be of benefit to people with ADHD. There is an association between ADHD and other behavioral disorders and low levels of omega-3 fatty acids. Research appearing in the journal *Prostaglandins, Leukotrienes and Essential Fatty Acids* (Volume 75, Issues 4-5, October-November 2006, Pages 299-308) looked at omega-3

levels in red blood cell and in plasma phospholipids. Symptoms associated with essential fatty acid deficiency include thirst and dry skin. The researchers found that these symptoms were more common in patients newly diagnosed with ADHD (and therefore not on drug therapy) than in healthy controls. The researchers followed up with the willing subjects, testing blood, and urine. They also had the subjects fill out a general health questionnaire and provide dietary intake information. In the subjects with ADHD, the red blood cells and plasma phospholipids had less omega-3 fatty acids than were found in healthy controls. In the ADHD group, consumption of saturated fats was 30% higher than in the control group. The researchers were not sure why the omega-3 fatty acid levels were lower in the ADHD group and encouraged further research in this area.

Other studies have shown different nutrients to be of value. One study that appeared in the *Journal of Child and Adolescent Psychopharmacology* (2007; 17(6): 791-802) found that acetyl-L-carnitine may be of value for children with the "inattentive" type of ADHD. Another small study appearing in *Prostaglandins, Leukotrienes and Essential Fatty Acids* (2002;67(1):33-38) found that supplementation with L-carnitine helped improve behavior in ADHD patients.

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## Arthritis and Bowel Flora

Reactive arthritis, following bouts of diarrhea, bowel infection or bowel inflammation is well-documented. Several species of bacteria have been associated with reactive arthritis including *Vibrio cholerae*, *Salmonella*, *Shigella*, *Yersinia* and *Campylobacter*. Between 10-20% of patients with Crohn's disease develop reactive arthritis. More information about this is found in "Antigens, the Gastrointestinal Tract and Arthritis", Inman, Robert D., M.D., *Rheumatic Disease Clinics of North America* (May 1991;17(2):309-321).

Food, in some instances can produce the symptoms of rheumatoid arthritis. One small study examined 16 patients with rheumatoid arthritis (RA) who reportedly had arthritis related to food consumption. Of the 16, three of the patients demonstrated subjective and objective changes after a blind controlled food challenge. They were also asymptomatic when not exposed to the offending food. It is possible that elimination diets may work for some RA patients. According to the journal article, "Intestinal Flora, Bacteria and Arthritis: Why the Joint", [Hazenbergh, M.P., *Scandinavian Journal of Rheumatology* (1995;24(Suppl. 101):207-211)], by products from bowel bacteria may be implicated in certain cases of arthritis.

In another study, "Small Intestinal Bacterial Overgrowth in Patients With Rheumatoid Arthritis", Henriksson, A.E.K., et al, *Annals of Rheumatic Diseases* (1993;52:503-510) 25 patients who tested positive for RA were studied. Eight of the 25 (32%) were either hypochlorhidric (low stomach acid) or achlorhydric (no stomach acid). They

were compared to achlorhydric controls as well as controls with normal stomach acid production, who did not test for rheumatoid factor. Of the subjects with inadequate hydrochloric acid production, half of the controls and half of the RA patients had small intestine bacterial overgrowth. Of the subjects with normal stomach acid production, none of the controls had bacterial overgrowth in the small intestine, but 35% of the RA patients had bacterial overgrowth in the small intestine. The authors conclude that there is a connection between bacterial overgrowth and the disease and that hydrochloric acid production is connected to bacterial overgrowth.

A diet that works to balance the bowel flora, like an elimination diet or a vegan diet may be beneficial to patients with RA. Improving the diet is a safe, inexpensive way to address the disease. Finding and eliminating food sensitivities may also be useful in treating RA. Eating vegetables helps to balance the bowel flora. Adequate enzyme and hydrochloric acid production also helps to keep the bowel flora in balance. These are small studies and observations, but may be significant. It should be noted that Alexander Fleming's discovery of a substance produced by mold that inhibited bacterial growth was not from a large clinical study, and did not get much attention at first. Earlier observers noted that mold suppressed bacterial growth, but thought nothing of it. But these minor observations set the stage for the development of penicillin.

## Children with Peanut Allergies

A double-blind, placebo-controlled study was published in *The Journal of Allergy and Clinical Immunology* (Volume 127, Issue 3, Pages 640-646.e1, March 2011) that look at a possible way to desensitize children with peanut allergies. The subjects of the study were 18 children between the ages of one and 11 with a known peanut allergy. They were randomly divided into two groups and received either a placebo or a very small amount of the allergen extract. The group receiving the dose of peanut extract were given gradually increased doses every two weeks for a period of six months. After each increase in dosage, the treatment group continued with that dose each day. The dose of peanut extract given to the treatment group was maintained for an additional six months once a maximum of 2,000 mcg (2 milligrams) of peanut protein was reached.

After one year (six months of receiving the maximum dose of 2 milligrams of peanut protein), the subjects were challenged with peanut flour mixed in with their food. The subjects were tested with allergy skin prick tests and blood samples were taken at various points during the study. The subjects who were given the sublingual peanut extract were able to safely consume 20 times more peanut protein than those in the placebo group. Skin tests also showed that the treatment group had a decreased reaction to the peanuts. The amount of peanut tolerated by the treatment group, 1710 milligrams (compared to 85 milligrams for the control group), may be enough to protect from accidental ingestion of peanut (a single peanut weighs about 100 milligrams). This is a small study and the results are encouraging, but not conclusive. More studies need to be performed.

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## Acupuncture and Arthritis

A randomized, controlled trial appeared in the *Annals of Internal Medicine* (2004 Dec 21;141(12):901-10), and it looked at the effect acupuncture had on arthritis. The subjects of the study were 570 patients suffering with arthritis in the knee. Subjects were given either true acupuncture or sham acupuncture for a period of 26 weeks. The patients were evaluated using the Western Ontario and McMaster Universities Osteoarthritis

Index (WOMAC). Evaluations were performed at week 8 and week 26. The group receiving the acupuncture had better scores on the WOMAC test. According to the researchers, acupuncture seemed to provide improvement in function and pain relief as an adjunctive therapy for osteoarthritis of the knee when compared with credible sham acupuncture and education control groups.

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## Grape Seed Extract and Alzheimer's Disease

"We can't solve problems by using the same kind of thinking we used when we created them."

--Einstein

Tau proteins are important to a properly functioning nervous system. When functioning properly, tau proteins interact with tubulin and strengthen the neural tubes in the axon (a process that extends from the neuron, or nerve cell, to carry a signal). The neural tubes are like highways that allow the nervous signal to travel down the axon.

Neurodegenerative diseases, like Alzheimer's disease, are known as tauopathies. This means that there has been disruption in the tau protein, creating instability in the neural tubes. This disrupts the signals in the central nervous system, leading to symptoms like dementia.

A tau protein is a protein found in neurons, primarily in the central nervous system. These proteins were first identified in the 1970s, and research on tau protein is continuing in many areas of the world, as researchers are curious about the role of these proteins in healthy individuals and in certain diseases which involve the central nervous system.

Previous studies have shown that grape seed extract (specifically, polyphenols derived from the grape seed) protect the tau proteins, and may help protect against neurodegenerative diseases like Alzheimer's disease. In an in-vitro (taking place outside of the body) study, appearing in the *Journal of Alzheimer's Disease* (2009;16(2):433–439), researchers found that grape seed polyphenolic extract (GPSE), prevented disruption of tau proteins. Other research, appearing in the *Journal of Biological Chemistry* (November 21, 2008. 238(47): 32176–32187), supports this finding.

GPSE was able to interfere with disruption of tau proteins in mice in a study that appeared in the *Journal of Neuroscience* (June 18, 2008. 28(25);6388–6392). Researchers were also able to prevent cognitive decline and a Alzheimer's-like pathology (called cerebral amyloid deposition) in mice with the use of GPSE.

