

THE UPLINK

Merging Contemporary Chiropractic Neurology and Nutritional Biochemistry in the Tradition of Applied Kinesiology

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CYTOKINES AND THE LIVER

Did you ever have the flu or some other acute infection and experience unusual perceptions or thoughts, or bizarre or weird dreams which disrupted your sleep patterns? Cytokines such as interleukins and tumor necrosis factors affect the central nervous system and have neurotransmitter-like effects. Elevated levels of these cytokines during the immune response to an infection can explain many of the unusual mental and emotional experiences which usually disappear when the infection is conquered and the cytokines return to normal levels.

Cytokines, like all other substances in our bodies, are detoxified in the liver. As with other toxins, cytokines are sometimes not detoxified as rapidly as the body makes them allowing a build up which can create secondary symptoms.

A number of years ago, confronted with patients who presented with the complaint of “weird dreams ever since I had that infection” and armed with the above knowledge, we developed a procedure (see below) for challenging the liver for cytokine detoxification. We observed generally excellent responses from a one-time application of this procedure with patients reporting that their dreams and sleep patterns had returned to normal and stayed normal following treatment.

More recently, we have checked for this pattern on every patient and have been surprised at how often it appears. Patients’ symptoms may be many and varied, and as in The Cholesterol Test discussed in Issue #30 of *THE UPLINK*, the symptoms may be far removed from the liver. In fact, this cytokine detoxification procedure parallels The Cholesterol Test in almost every way, with the exceptions that the challenge substance is different, and the most common substance needed to block the cytokines’ effects is the amino acid, glycine. (See next page.)

THE “THYMUS THUMP” CHALLENGE

There are two challenge procedures which we have used for cytokine activity. One or both will create a bilateral PMS inhibition in susceptible patients. The first is the “thymus thump” originally developed by ICAK Charter Diplomate, John Diamond, MD about 30 years ago. Dr. Diamond recommends having a person “thump” over his or her sternum with the closed fist to activate the thymus. It appears that this procedure does activate the thymus and its production of cytokines, with beneficial effects for many people. However, these cytokines can stress the liver in susceptible patients.

The second procedure is oral challenge with the Standard Process, Inc. product Thymex or with homeopathic cytokines. Thymex has clinical effects which appear to support cytokine activity by the immune system. We have used it for years in acute infections. (See next page.) However, in patients for whom cytokine detoxification is a problem, this substance may induce bilateral PMS inhibition.

So we can challenge with the thymus thump, oral Thymex, or cytokines and test both PMS muscles to screen for this cytokine detoxification problem. The thymus thump will always be positive in these patients whereas oral Thymex will be positive in only 80-90% of this group. We take the trouble to test for Thymex so that if it is positive, we may use the oral stimulation with the substance to further reinforce the challenge during treatment procedures.

CYTOKINES DETOX PROCEDURE

1. Both PMS strong in the clear. Some other muscle is weak. (Often a recurrent weakness.)
2. Rubbing the liver visceral referred pain (VRP) area strengthens this other weak muscle.
3. Test both PMS with thymus thump or Thymex (SP), or various homeopathic cytokines from Metabolics' Cytokines test kit. In susceptible patients, one or more of these will cause weakness of both PMS (Types 1, 2, & 3.)
 - a. Thymus Thump, oral Thymex, or oral cytokines will cause a positive TL to liver Chapman's reflex when testing any strong muscle.
4. Test glycine (GLY) and its cofactors (or other liver detoxification nutrients) against the weak-in-the-clear muscles. Positive nutrient(s) will negate the thymus thump – PMS challenge also.
5. Treat by rubbing the liver Chapman's reflex coincident with the thymus thump and while the patient holds the Thymex and/or cytokine in the mouth.
6. Rechallenge both PMS with thymus thump or Thymex (SP), or homeopathic cytokines in the mouth to verify correction.

■ **CHECK FOR CYTOKINE DETOXIFICATION** in patients with chronic pain (see immediately below), chronic allergies, any mental or emotional symptoms, any autoimmune disease, and infection symptoms which will not go away such as chronic sinus congestion and chronic cough. Cytokines are produced in any inflammatory reaction, whether from injury, allergies, or GI tract dysbiosis. In fact, check both PMS muscles with the thymus thump in any chronic patient.

■ **CHRONIC PAIN AND CNS INFLAMMATION:** Pain researchers Steven F. Maier and Linda R. Watkins at the University of Colorado have proposed the concept that chronic pain may be initiated and/or maintained by cytokine activation of the CNS. This may occur in two ways, either 1) directly by cytokines' effects in the CNS, or 2) indirectly via the effects of gut cytokines on stimulating vagal afferents to the CNS. These inflammatory effects maintain depolarization of CNS pain producing neurons. Reduction of chronic pain in these patients would require a decrease in cytokine activity. This could be achieved by 1) *increasing cytokine breakdown* as is proposed on the previous page, 2) *decreasing cytokine production*, and/or 3) *blocking cytokines' effects*.

Decreasing cytokine production would depend on identifying the source and eliminating it. Some very common sources of cytokines are immune system reactions to food and chemical sensitivities, and gut associated lymphoid tissue (GALT) immune reactions to unfriendly (dysbiotic) organisms growing in the GI tract.

Glycine can be used to *block the effects of some cytokines* (TNF-alpha, IL-1, and IL-6.) It is the simplest of all amino acids with only 2 carbons and it should be easily synthesized, yet we often find it needed...

■ **...SIMPLE, SIMPLE, SIMPLE:** Why doesn't the body make enough of its own GLY? Its synthesis requires adequate folic acid, manganese, B-6 (P5P), and riboflavin (B-2.) We always test these four nutrients whenever a patient strengthens on GLY, and will usually find one or more of them to test positive. We supplement as clinically indicated except when riboflavin is positive.

Experience has shown that the majority of patients who strengthen on oral nutrient testing with riboflavin have some GI tract dysbiosis. B-2 is used up by unfriendly gut flora just like it is used by us. Dysbiosis is a common reason for decreased GLY due to the unfriendly gut flora using the B-2 in our diets before we can get to it. The dysbiosis creates inflammatory cytokines which cannot be blocked due to decreased B-2 leading to the lack of GLY and symptoms continue.

■ **CYTOKINES TEST KIT** is available from Metabolics USA: (866)-682-2624.

■ **A BRIEF CASE HISTORY** (about one page) which illustrates a typical cytokine detoxification patient can be found on our web site www.theuplink.com. See "Guides" and "THE UPLINK Issue 31 Case History."

■ **3 TYPES OF THYMUS TISSUE PRODUCTS:** In both *Common Glandular Dysfunctions in the General Practice* ("The Green Book") and *Compiled Notes on Clinical Nutritional Products* ("The Blue Book") there are sections on "Three Categories of Glandular Preparations." These three categories are summarized as 1) whole glandular concentrates, 2) protomorphogen extracts, and 3) hormones or hormonal-like substances (aqueous extracts of the tissues.)

Applying these concepts to the thymus gland, our suppliers have available 1) whole thymus concentrates, 2) thymus protomorphogen, and 3) thymus aqueous extract (Thymex by Standard Process, Inc.) The best muscle to test for these substances is the infraspinatus - the thymus-related muscle. Often the infraspinatus will respond to thymus tissue(s) when other muscles will not.

In general, when trying to build up thymus function, we would consider a whole thymus concentrate and/or the thymus protomorphogen, whichever one(s) caused a positive response on oral nutrient testing. When a patient is fighting an infection, we would first think of using the aqueous extract (Thymex) to support the body's need for cytokine activity while the body was increasing its own defenses to the appropriate level. This may require one or both of the other types of thymus tissue as well.

Since it takes about 5 to 7 days for the immune system to crank up to full level when confronted with a "new" infection (which is why colds usually start to resolve in about a week), Thymex is very useful at these times to "jump start" the process. After the infection symptoms are gone, we would discontinue the use of Thymex in most cases but continue (or start) whichever of the other thymus tissue(s) strengthens the patient.

■ **100 HOUR AK COURSE IN NC IN 2004-05:** The dates have been set for Dr. Schmitt's Special 100 Hour Basic AK Course in Chapel Hill sponsored by the North Carolina Chiropractic Association beginning in October of 2004. See seminar schedule for dates.

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