MEETING HIGHLIGHTS

Integrative Healthcare Symposium
Cancer and Chronic Lyme Disease
Walter Alexander

The Fifth Integrative Healthcare Symposium, which took place in New York City from February 19 to 21, 2009, welcomed more than 800 physicians, naturopaths, homeopaths, chiropractors, nurse-practitioners, acupuncturists, and other health care practitioners to a broad array of offerings. Presentations included lectures; interactive sessions; and workshops on women’s and environmental health, nutrition, practice management, spirituality, consciousness, and more. Sessions on breast cancer, thrombocytopenia in advanced cancer patients, and chronic Lyme disease are reviewed in this article.

Naturopathic Supplements and Herbal Strategies For Treating Patients with Breast Cancer

• Lise Alschuler, ND, Naturopathic Specialists, LLC, Scottsdale, Ariz., and President, American Association of Naturopathic Physicians

Doxorubicin (Adriamycin) is an anthracycline, a class known for containing the most effective and widely used anti-blastic agents. Doxorubicin’s prolonged use, however, is severely limited by the irreversible and dose-dependent cardiotoxic side effects it causes. Two substances, l-carnitine and coenzyme Q10 (ubiquinone), have long been known to mitigate its cardiac risks.2 Coenzyme Q10 is an essential component of the electron transport system and a potent intracellular antioxidant, appears to prevent damage to cardiac mitochondria and may also enhance anticancer effects.3

l-carnitine’s interaction with cardiolipin, which modifies membrane permeability and protects mitochondrial function, may explain its inhibition of doxorubicin-induced cardiotoxicity.4 Oral l-carnitine at a dose of 4 g daily for seven days significantly improved Functional Assessment of Cancer Therapy-Fatigue (FACT-F) scores in 50 patients with low plasma l-carnitine levels who received cisplatin (Platinol, Bristol-Myers Squibb) or ifosfamide-based regimens (American Pharmaceutical Partners).5

“I think it’s a crime that women are put on Adriamycin without these two,” Dr. Alschuler commented.

Among other substances with effects on doxorubicin use, green tea has been shown to increase doxorubicin concentrations in tumors (but not in heart or liver tissue). Curcumin use with doxorubicin is contraindicated.6 Melatonin offers both cardiac protection and improved antitumor activity, primarily inhibition of proliferating estrogen receptor alpha-positive MCF-7 breast cancer cells.

Dr. Alschuler further noted that beyond doxorubicin, added benefits with coadministration of natural agents may be gained for cyclophosphamide (Cytoxan, Bristol-Myers Squibb), docetaxel (Taxotere, Sanofi-Aventis), and paclitaxel (Taxol, Bristol-Myers Squibb); carboplatin (Paraplatin, Bristol-Myers Squibb), fluorouracil (5-FU), and capecitabine (Xeloda, Roche); and tamoxifen citrate (Nolvadex, AstraZeneca).

Peripheral neuropathy is a common side effect of chemotherapy with paclitaxel. Among patients experiencing paclitaxel-induced peripheral neuropathy, l-glutamine (10 g orally three time daily for four days starting 24 hours after completion of therapy with paclitaxel) produced significant reductions in the severity of dysesthesias and numbness (P < 0.05). Significant reductions were also observed in motor weakness (P = 0.04), gait deterioration (P = 0.16), and interference with activities of daily living (P = 0.001).7

Vitamin E showed benefit in a small trial among cancer patients receiving paclitaxel, cisplatin, or their combination. Neurotoxicity was reported in 25% of patients receiving vitamin E at 600 mg/day and in 73.3% of controls (P = 0.019).8

Among agents included in Dr. Alschuler’s list for patients receiving conventional chemotherapy were ginkgo biloba, vitamin E, and l-carnitine for patients receiving carboplatin/cisplatin; fish oil, curcumin, and green tea for patients receiving 5-fluorouracil (5-FU) with leucovorin calcium or capecitabine; and riboflavin, niacin, coenzyme Q10, and melatonin for those receiving tamoxifen.

Dr. Alschuler emphasized that unlike metastatic breast cancer, early breast cancer is “basically curable.” She concluded: “Early breast cancer is the time to treat aggressively with both conventional and natural agents.” Dr. Alschuler provides further detail about integrative treatment of breast cancer in her book.9

Chemoprotectant Ribosomal RNA, an Anti-thrombocytopenic Agent for Advanced Cancer


Chemotherapy is often reduced or suspended in patients with cancer because of the risk of spontaneous bleeding and cerebral hemorrhage when platelet levels drop in response to treatment. Chances of successful treatment may be considerably diminished. Normal blood platelet counts range from 150,000 to 450,000/mm3.

Short extracts of RNA primers may help cancer patients who are vulnerable to thrombocytopenia maintain their therapy.
The small-chain ribosomal RNA (rRNA) fragments (chemoprotectant rRNA, Molecular Research International, Inc.), derived from purine-rich nucleotides from *Escherichia coli* K12, an *E. coli* strain deemed innocuous by the National Institutes of Health, appear to stimulate production of platelets, according to an early-phase trial conducted by Cancer Treatment Centers of America (CTCA), a network of regional hospitals in the U.S.

The trial enrolled 32 cancer patients (23 women and nine men 35 to 70 years of age) with thrombocytopenia (platelet nadirs of 80,000 or less) in the prior cycle of chemotherapy and with an Eastern Cooperative Group (ECOG) performance status of 0 to 4. Cancers among enrolled patients were most often in the breast (n = 10), colon (n = 7), lung (n = 4), and pancreas (n = 4). All patients were heavily pretreated, many had bone metastases, and a significant portion had damaged bone marrow caused by previous treatment with an antibiotic antineoplastic agent, mitomycin C (Mutamycin, Bristol-Myers Squibb).

Chemoprotectant rRNA was self-administered in a sublingual formulation. Patients received up to three cycles at 80 mg, the maximum dose. Ten patients per group received either 20, 40, or 60 mg of chemoprotectant rRNA as the starting dose, which was then escalated in 20-mg increments if the nadir fell below 80,000 platelets at the start of the next treatment cycle.

Within eight days of treatment, all of the trial’s 28 patients who completed therapy had platelet level nadirs above 80,000/mL. For all patients, nadir platelet levels either stabilized or improved. Platelet levels recovered more quickly after chemotherapy compared with the typical experience. The presence of bone metastases did not appear to diminish the ability of chemoprotectant rRNA to accelerate platelet recovery.

No unplanned chemotherapy dose reductions were needed, and no adverse events attributable to chemoprotectant rRNA were reported. Disease progression ultimately caused most patients to withdraw from the study.

A phase 2 study is being planned. Dr. Hall concluded that chemoprotectant rRNA appeared to accelerate recovery in platelet counts and to stabilize or raise the platelet number at the nadir.

**Classic and Integrative Medical Therapies For Lyme Disease and Associated Tick-Borne Disorders**

- Richard Horowitz, MD, Hudson Valley Healing Arts Center, sponsored by Xymogen

The Mayo Clinic Web site describes Lyme disease as a tick-borne illness that causes signs and symptoms ranging from rash, fever, chills and body aches to joint swelling, weakness, and temporary paralysis. It is caused by the bacterium *Borrelia burgdorferi*. Although recovery is usually complete if patients with early-stage disease receive appropriate antibiotics, some patients have recurring or lingering symptoms long after the infection has cleared. Recommended antibiotics include doxycycline (e.g., Vibramycin, Pfizer) for adults and children older than eight years of age or amoxicillin (Amoxil, GlaxoSmithKline) or cefuroxime axetil (Zinacef injection, GlaxoSmithKline) for adults, younger children, and pregnant or breast-feeding women.

If disease has progressed, an intravenous (IV) antibiotic for 14 to 28 days is effective in eliminating infection. Finally, the Mayo Clinic Web site warns that bismacine (chromasine, American Biologics Corp.), a substance recommended by some alternative practitioners, may cause bismuth poisoning, which may lead to heart and kidney failure.

The chronic Lyme disease picture offered by Dr. Horowitz is considerably more grim. Hudson Valley specialists, who have treated more than 11,000 patients with chronic Lyme disease over a period of 20 years, suggest that although antibiotics are useful for the underlying infections, especially in the first 30 days, most patients relapse when antibiotics are discontinued.

“Most patients have seen 15 to 20 different doctors before they come to us,” Dr. Horowitz said.

He defined chronic Lyme disease as a symptom complex of borreliosis and multiple co-infections with associated inflammation and immune dysfunction. Co-infections are a crucial element because deer tick bites may also pass on ehrlichiosis, babesiosis, and *Bartonella* or cat-scratch fever. In fact, as many as 40% of patients with chronic Lyme disease may also have one or more of these other diseases.

Dr. Horowitz’s integrative approach is based on addressing what he calls “the 3 Is” (infection, immunity, and inflammation) while investigating other overlapping causes responsible for ongoing symptoms (e.g., hormone abnormalities, heavy metals, neurotoxins, viruses, parasitic infections, leaky gut, food allergies, and autoimmunity).

Regaining health demands a strategy for treating all three forms of *B. burgdorferi* infection (cell wall, cystic, and intra-cellular forms) as well as all other co-infections, psychiatric problems, and nutritional deficiencies. Formulating a comprehensive treatment plan includes reviewing 15 differential diagnostic categories, then prioritizing appropriate remedial steps.

The first step is to analyze the sources of infection; these can include bacteria, parasites, viruses, and fungi (especially *Candida*). Next comes an evaluation of inflammation, toxicities, allergies, nutritional and enzyme deficiencies (including functional medicine abnormalities in biochemical pathways), mitochondrial dysfunction, psychological factors, endocrine abnormalities, sleep disorders, autonomic nervous system dysfunction, gastrointestinal disorders, and liver function abnormalities.

A few key points from what Dr. Horowitz termed “cramming 20 years of practice into 45 minutes” with 60 detailed slides, can be summarized as follows:

Of all patients with chronic Lyme disease, 50% have experienced some form of abuse. If psychological aspects are not addressed, other symptoms do not improve. Lyme and associated co-infections cause previous psychological patterns to intensify or can cause new patterns to emerge (i.e., psychosis, bipolar or manic-depressive disorder).

Ninety percent of patients with chronic Lyme disease have problems with sleep, and many are addicted to narcotics. Impaired sleep correlates directly with impaired immune functioning. Antibiotics should be rotated to avoid resistance. Because blood tests at local laboratories are generally unreliable, Western blots should be requested.

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Symptoms of fatigue, myalgias, arthralgia, and neurocognitive symptoms are relieved in 15% to 20% of patients after heavy metals are chelated. Forty percent of patients have adrenal fatigue, and many have underactive thyroid glands. IV glutathione may be effective in some nonresponders.

A 2005 study, reported by the Centers for Disease Control and Prevention (CDC), discovered 116 different toxins in more than 50% of patients studied (13 heavy metals, 14 combustion byproducts, and 10 pesticides).

Lyme disease is chronic and persistent. The word “cure” is not realistic. Complementary and alternative therapies have been used alone and in combination with conventional antibiotics. Specific strategies (e.g., Bhuner, Schart, Zhang, Cowden, and homeopathic protocols) are defined, but large scientifically validated studies are lacking. A small study of 50 patients that included the full and limited Cowden protocols, with and without antibiotics, for example, showed improvement in 66% to 77% of patients.

Commenting on integrating traditional and complementary/alternative therapies, Dr. Horowitz concluded:

Herbs such as *Andrographis*, Polygonum/resveratrol, *Smilax*, *Stephania*, *Samento* can be added at any time during an antibiotic protocol to address inflammation and elevated cytokines and to reduce the number of antibiotics used, especially if there is gastrointestinal intolerance. After the patient has achieved a significant level of improvement, rotation onto an herbal protocol and maintaining it for at least a year can be considered. (Relapses were seen with the Cowden protocol given for less than six months.) Controlled clinical trials are needed to determine which combinations of herbs in different clinical circumstances yield the safest and most efficacious results.

REFERENCES


