

POSTER: "Amantadine and L-carnitine therapy of CFS: Preliminary results"  
**Sigita Plioplys and Audrius Plioplys.**

Amantadine has been used successfully to treat multiple sclerosis-related fatigue; L-carnitine is essential for mitochondrial energy production and has been used to treat various neurologic conditions. This research team evaluated the effectiveness of these substances in treating 14 CFS patients.

The 14 patients were randomly split into two groups, each receiving treatment with either amantadine or L-carnitine. After eight weeks, both groups were "washed out" (received no treatment) for two weeks and then switched medicines for an additional eight weeks. Subjects were free of all other medications over the course of the study.

Side effects of amantadine treatment caused six patients (43 percent) to drop out of that phase of the study. All patients completed the L-carnitine trial and no side effects were noted.

In this trial, L-carnitine seemed to be "overall significantly more effective in treating CFS patients than amantadine." However, "amantadine may be helpful in improving mental fatigue symptoms in select patients, and L-carnitine in improving mental and physical fatigue symptoms in the majority of patients."

# Muscle & Mitochondria Studies

## Acylcarnitine

**H**irohiko Kuratsune, MD repeated his excellent description of acylcarnitine deficiency in CFS. (*Eds. note: see reports from the 1992 Albany conference in the Summer '93 Chronicle and 1994 Dublin conference in the Summer '94 Chronicle.*) He expanded upon this theory by proposing a new concept of an acylcarnitine deficiency syndrome (ACDS) characterized by serum acylcarnitine deficiency without free carnitine abnormalities. ACDS may be caused by various diseases but most of the patients with ACDS demonstrated chronic fatigue (but not necessarily CFS).

In response to questions from the audience, Dr. Kuratsune stated that the administration of acylcarnitine may decrease ACDS symptoms, but that this treatment had not been evaluated and could not be recommended at this time. He also did not know whether the administration of carnitine alone would be helpful. However, this was discussed in the next presentation by **A.V. Plioplys, MD.**

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Dr. Plioplys and his wife, **Sigita Plioplys, MD**, studied serum levels of carnitine in 35 CFS patients (CDC criteria). They used different laboratory techniques than Dr. Kuratsune and determined that acylcarnitine, as well as free carnitine and serum total carnitine levels were depressed in CFS patients when compared to a control population provided by the Mayo Clinic.

They also found the lowest acylcarnitine levels in the sickest CFS patients. They suggested that these findings might be indicative of mitochondrial dysfunction and may contribute to or cause the fatigue in CFS.