

Over the past several years, in a number of small studies, Dr. A. Martin Lerner and his collaborators at Wayne State University and the University of Michigan have objectively documented heart symptoms and abnormalities in a percentage of Chronic Fatigue Syndrome/Chronic Fatigue and Immune Dysfunction Syndrome/Myalgic Encephalopathy (CFS/CFIDS/ME) patients.

In one study, the administration of intravenous ganciclovir had a marked effect in a subset of CFIDS/ME patients in increasing their ability to function.

Studies ¹ and ² cited below objectively documented intermittent tachycardia in a very high percentage of CFS patients. The tachycardia is accompanied by T-wave abnormalities as measured by 24-hour Holter monitoring.

CFS patients for these two studies were selected from infectious disease practices, were younger than 50, and did not have any known heart or circulatory condition. Patients experienced left-sided chest pain, palpitations, rapid pulse and light-headedness.

Lerner found that, "In CFS patients, oscillating abnormal T-waves were regularly seen with the onset of sinus tachycardias, and the abnormal T-waves then resolved with the reappearance of normal sinus rhythms." ¹

"This study ² confirms our earlier report ¹, just quoted that CFS patients uniformly have abnormal oscillating T-wave flattenings and T-wave inversions by Holter monitoring."

In this study, 96% of 51 CFS patients (1988 and 1994 diagnostic criteria) had one or both of the T-wave abnormalities. The studies found that 12 lead standard ECGs and 2-D echocardiograms do not generally show these cardiac abnormalities in CFS.

In a new unpublished study ⁴, the researchers found "... 24% of 87 non-selected CFS patients from a recent consecutive case series exhibited left ventricular dysfunction, by stress

radioscopic multiple gated acquisition (blood pool image) (MUGA) method. Abnormal cardiac wall motion at rest and stress, dilation of the left ventricle, and segmental wall motion abnormalities were present.

These abnormal ejection fractions demonstrate abnormal left ventricular function and are not seen with normal persons living a sedentary lifestyle."

In another study ³, 18 CFS patients were given the anti-viral ganciclovir intravenously for 30 days. A subset of patients, ill for an average of 1.6 years and with somewhat elevated CMV (cytomegalovirus) anti-body titres, experienced substantial improvement in overall ability to function. This study, "was not blinded, randomized, or placebo-controlled."

The following articles by Lerner *et al.* are the sources for the information in this article (the reference number for each article is used to cite the article in the text above):

¹ Lerner *et al.*, "Repetitively negative changing T waves at 24 hour electrocardiographic monitors in patients with CFS," *Chest* 104 (1993):1417-21.

² Lerner, Goldstein, *et al.*, "Cardiac Involvement in Patients with Chronic Fatigue Syndrome as Documented with Holter and Biopsy Data in Birmingham, Michigan, 1991-1993," *Infectious Diseases in Clinical Practice* 6 (1997): 327-333.

³ Lerner, Zervos, *et al.*, "New Cardiomyopathy: Pilot Study of Intravenous Ganciclovir in a Subset of the Chronic Fatigue Syndrome," *Infectious Diseases in Clinical Practice* 6 (1997): 110-117.

⁴ Lerner, Sayyed, Dworkin, *et al.* "Abnormal Left Ventricular Dynamics in Patients with Chronic

Fatigue Syndrome in Birmingham, Michigan, 1987-1994" (submitted for publication)