

**Patients with chronic fatigue syndrome have reduced absolute cortical blood flow.**

Yoshiuchi K, Farkas J, Natelson BH.

Department of Neurosciences, Fatigue Research Center, UMDNJ-New Jersey Medical School, Newark, USA. kyoshiuc-tky@umin.ac.jp

Prior studies on brain blood flow in chronic fatigue syndrome (CFS) did not find consistent results. This may be because they used single-photon emission computed tomography to measure brain blood flow, which could not measure absolute blood flow. Therefore, the aim of this study was to test the hypothesis that patients with CFS have reduced absolute cerebral blood flow. Xenon-computed tomography blood flow studies were done on 25 CFS patients and seven healthy controls. Analyses were done after stratifying the CFS patients based on the presence or absence of a current psychiatric disorder. Flow was diminished in both groups as follows: patients with no current psychiatric disorders had reduced cortical blood flow in the distribution of both right and left middle cerebral arteries ( $P < 0.05$  for both) while those with current psychiatric disorders had reduced blood flow only in the left middle cerebral artery territory ( $P < 0.05$ ). These data indicate that patients with CFS have reduced absolute cortical blood flow in rather broad areas when compared with data from healthy controls and that those devoid of psychopathology had the most reductions in cortical flow. These data support, in part, our earlier findings that patients devoid of psychopathology are the group most at risk of having some of the symptoms of CFS due to brain dysfunction.

PMID: 16494597 [PubMed - in process]