Hematologic and urinary excretion anomalies in patients with chronic fatigue syndrome.

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OBJECTIVE AND METHODS: Patients with chronic fatigue syndrome (CFS) have a broad and variable spectrum of signs and symptoms with variable onsets. This report outlines the results of a single-blind, cross-sectional research project that extensively investigated a large cohort of 100 CFS patients and 82 non fatigued control subjects with the aim of performing a case-control evaluation of alterations in standard blood parameters and urinary amino and organic acid excretion profiles.

RESULTS: Blood biochemistry and full blood counts were unremarkable and fell within normal laboratory ranges. However, the case-control comparison of the blood cell data revealed that CFS patients had a significant decrease in red cell distribution width and increases in mean platelet volume, neutrophil counts, and the neutrophil-lymphocyte ratio. Evaluation of the urine excretion parameters also revealed a number of anomalies. The overnight urine output and rate of amino acid excretion were both reduced in the CFS group (P < 0.01). Significant decreases in the urinary excretion of asparagine (P < 0.0001), phenylalanine (P < 0.003), the branch chain amino acids (P < 0.005), and succinic acid (P < 0.0001), as well as increases in 3-methylhistidine (P < 0.05) and tyrosine (P < 0.05) were observed.

CONCLUSION: It was concluded that the urinary excretion and blood parameters data supported the hypothesis that alterations in physiologic homeostasis exist in CFS patients.

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