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### **Hemodynamics instability score in chronic fatigue syndrome and in non-chronic fatigue syndrome.**

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**OBJECTIVE:** In studying patients with chronic fatigue syndrome (CFS) we developed a method that confers numerical expression to the degree of blood pressure and heart rate lability, ie, the 'hemodynamic instability score' (HIS). The HIS in CFS patients differed significantly from healthy subjects. The present investigation compares the HIS in CFS, non-CFS chronic fatigue and patients with recurrent syncope. **METHODS:** Patients with CFS (n = 21), non-CFS chronic fatigue (n = 24), syncope of unknown cause (n = 44), and their age and sex-matched healthy controls (n = 21) were evaluated with a standardized head-up tilt test (HUTT). Abnormal reactions (endpoints) on HUTT were classified 'clinical outcomes' (cardioinhibitory or vasodepressor reaction, orthostatic hypotension, postural tachycardia syndrome) and 'HIS endpoint', i.e. HIS >-0.98. **RESULTS:** The highest incidence of endpoints was noted in patients with CFS (79%), followed by patients with syncope of unknown cause (46%), non-CFS chronic fatigue (35%), and healthy subjects (14%). Presyncope or syncope during tilt occurred in 38% of CFS patients, 21% of patients with non-CFS chronic fatigue, and 43% of patients with recurrent syncope. The average HIS values were: CFS = +2.02 (SD 4.07), non-CFS chronic fatigue = -2.89 (SD 3.64), syncope = -3.2 (SD 3.0), healthy = -2.48 (4.07). The odds ratios for CFS patients to have HIS >-0.98 was 8.8 compared with non-CFS chronic fatigue patients, 14.6 compared with recurrent syncope patients, and 34.8 compared with healthy subjects. **CONCLUSION:** The cardiovascular reactivity in patients with CFS has certain features in common with the reactivity in patients with recurrent syncope or non-CFS chronic fatigue, such as the frequent occurrence of vasodepressor reaction, cardioinhibitory reaction, and postural tachycardia syndrome. Apart from to these shared responses, the large majority of CFS patients exhibit a particular abnormality which is characterized by HIS values >-0.98. Thus, HIS >-0.98 lends objective criteria to the assessment of CFS. Copyright 2002, Elsevier Science (USA). All rights reserved.

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