

Exercise capacity and immune function in male and female patients with chronic fatigue syndrome (CFS).

Snell CR, Vanness JM, Strayer DR, Stevens SR. (2005)

University of the Pacific, Department of Sport Sciences, Stockton, CA 95211-0197, USA. snells@juno.com

Hyperactivation of an unwanted cellular cascade by the immune-related protein RNase L has been linked to reduced exercise capacity in persons with chronic fatigue syndrome (CFS). This investigation compares exercise capacities of CFS patients with deregulation of the RNase L pathway and CFS patients with normal regulation, while controlling for potentially confounding gender effects. Thirty-five male and seventy-one female CFS patients performed graded exercise tests to voluntary exhaustion. Measures of peak VO₂, peak heart rate, body mass index, perceived exertion, and respiratory quotient were entered into a two-way factorial analysis with gender and immune status as independent variables. A significant multivariate main effect was found for immune status ($p < 0.01$), with no gender effect or interaction. Follow-up analyses identified VO₂(peak) as contributing most to the difference. These results implicate abnormal immune activity in the pathology of exercise intolerance in CFS and are consistent with a channelopathy involving oxidative stress and nitric oxide-related toxicity.

PMID: 15796202 [PubMed - indexed for MEDLINE]