Visceral obesity: The effect of a 4-weeks program of rehabilitation on adipokines and insulin resistance

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Abstract

Introduction: Some recently discovered molecules produced by adipose tissue are involved in obesity complications: the adipokines. We aimed to determine changes in plasma adiponectin and leptin concentrations, and insulin resistance, after a 4-weeks program of rehabilitation.

Research methods and procedures: Clinical (BMI, waist circumference, exercise test with VO2max measurement) and biological evaluation (plasma adiponectin, leptin and insulin concentration, HOMA score) before and after rehabilitation on 111 patients with abdominal obesity admitted for a 4-weeks program of rehabilitation because of chronic pain.

Results: Plasma leptin, adiponectin and insulin concentration (p < 0.0001) and HOMA score (p = 0.0002) had decreased significantly at the end of the 4 weeks. BMI and waist circumference decreased significantly (p = 0.0001). Patients with insulin resistance had a lower improvement of their aerobic condition at the end of the 4 weeks (p < 0.002).

Discussion: 4-weeks rehabilitation program decreases plasma leptin concentration, which is a cardiovascular risk marker, and improves insulin sensitivity, regardless of weight variations. Patients with insulin resistance have a worse aerobic recovery than others.

Biography

Florence Doury-Panchout has completed her Ph.D at Tours University School of Medicine. She is currently chief resident in the service of Physical Medicine and Rehabilitation of the university hospital of Tours, France. Dr Doury-Panchout specializes in 2 major topics: obesity and chronic pain. Her publications include articles in scientific magazines, collaboration on several book chapters, and oral and published reports in congresses of the French Society of Physical Medicine and Rehabilitation (SOFMER).