Study of the circulation in the lower extremities in female primary restless legs syndrome patients and healthy controls by using non-invasive and invasive methods

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Introduction

Recently it was discovered that the lower limb muscles in patients suffering from restless legs syndrome (RLS) was affected by proliferation of endothelial cells due to possible anoxia.[1]

Objective

The aim of this study was to examine whether there are signs of circulation impairment in the lower extremities in female patients suffering from RLS.

Methods

This study was performed in seven female patients (mean age: 49 years) diagnosed with primary RLS and seven healthy female control subjects (mean age: 46 years). The patients were healthy besides from their primary RLS.

The subjects were studied with thermography performed on the calves of both legs, as well laser Doppler flowmetry (LDF) to measure microcirculation in the tibialis anterior muscles The studies were performed between 8-10am and 8-10pm.

Preliminary results

Thermography did not show any difference in the temperature of the legs in the RLS-patients compared with the controls according to time of the measurement. However, LDF revealed that the microcirculation in the leg muscles of the RLS-patients declined in the evening.

Discussion

Perhaps the circadian rhythmicity seen in primary RLS affects the leg muscle microcirculation?

Reference

Wahlin-Larsson B, Ulfberg J, Aulin KP, Kadi F. The expression of vascular endothelial growth factor in skeletal muscle of patients with sleep disorders. Muscle Nerve. 2009;40:556–61.