

Differences in soleus H-reflex to M-wave ratio between obese and non-obese individuals.

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Background: the aim of this cross-sectional comparative study was to investigate potential differences in soleus H-reflex to M-wave ratio between obese and non-obese individuals under different postural constraints.

Methods: a total of 23 obese individuals and 23 matched non-obese controls took part in the study. The maximal soleus H-reflex to M-wave ratio (peak-to-peak amplitude) was quantified in three different conditions: seated at rest, seated with a light contraction of the plantar flexors and during bipedal quiet standing.

Findings: soleus H-reflex to M-wave ratio was significantly higher in obese than in non-obese individuals in all the experimental conditions ($p < 0.01$).

Interpretation: obese individuals showed larger normalized soleus H-reflex responses than their non-obese counterparts, probably as a reflect of long-term neurophysiological adaptations to excessive body weight and postural demands.

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