

Objective: In this study, the aim was to evaluate the lower extremity muscle strength in patients with chronic venous insufficiency using an isokinetic dynamometer.

Methods: The study comprised a group of 36 lower extremities of 23 patients diagnosed with chronic venous insufficiency and a control group of 40 lower extremities of 20 patients who did not have chronic venous insufficiency. In the diagnosis and evaluation of chronic venous insufficiency, photoplethysmography was used to evaluate the venous return circulation time. Visual Analog Scale scoring was applied to define the level of pain of the patients. Muscle strength measurements were made in all the lower extremities by using an isokinetic dynamometer.

Results: A statistically significant difference was detected between the groups in terms of the muscle strength parameters in the ankle plantar flexion, and knee flexor and extensor muscles. However, no statistically significant difference was found between the groups in the ankle dorsiflexion muscle strength parameters. A significant difference was determined in the ratio of ankle dorsiflexion/plantar flexion muscle strength between the mild, moderate and severe venous insufficiency groups. A statistically considerable negative correlation was found between the Visual Analog Scale scores and the photoplethysmography results. According to the Visual Analog Scale results, as the degree of venous insufficiency increased, so did the level of pain.

Conclusion: Impaired lower extremity muscle strength was observed in chronic venous insufficiency patients. Although the current study was consistent with literature in respect of impaired calf muscle strength, this finding was also seen in the thigh muscles. Furthermore, we concluded that if venous insufficiency becomes more severe, impaired calf muscle strength becomes more evident.