

The Effects of Extracorporeal Shock Wave Therapy on Plantar Pressure in Patients with Calcaneal Spur

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Abstract : Aim: The aim of our study is to determine the change of plantar pressure after extracorporeal shock wave therapy (ESWT) in a patient with calcaneal spur (CS). Method: Thirty patients with CS who received ESWT treatment at Kartal Yavuz Selim State Hospital between May 2020 and November 2022 participated in this study. Demographic information of the cases was obtained. Pain levels and plantar pressure were measured with Visual Analog Scale (VAS) and pedobarography, respectively. Pedobarography measured the maximal strength, peak pressure level, and contact area values of the hind, middle, forefoot, and toes. The cases were re-evaluated 4 weeks after the application of 15 Hz, 2-3 bar, 2,000 beats ESWT for 3 sessions. 22 cases participated in the second evaluation. The data of all patients were evaluated bilaterally. Results: Pain intensity levels after treatment were statistically significantly decreased compared to before treatment ($p=0.012$). Maximum force and contact area values of total foot and forefoot increased significantly ($p < 0.05$). Conclusion: We consider that the increased max force value of total foot and forefoot area after ESWT is due to the normal walking rate gained related to decreased pain. ESWT treatment may have positive effects on foot pressure distribution and body biomechanics. In order to interpret the results of our study more clearly, randomized controlled studies with a larger number of cases were planned in the future.

Keywords : calcaneal spur, ESWT, plantar pressure, pain

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