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Case Report / *Olgu Sunumu*

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Does surgical repair of acute Achilles tendon rupture cause structural changes on 15-year follow-up?

Akut Aşil tendonu yırtıklarının cerrahi tedavisi 15 yıllık takipte yapısal değişikliklere neden olur mu?

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We describe a case, which gives an answer to the question of "Does the surgical repair of the acute Achilles tendon ruptures cause the structural changes in the 15-year follow-up?" The only complaint of the patient was the feeling of that the size of the left foot is smaller than the right side. Dynamic pedobarography (EMED-SF, Novel, Munich) demonstrated that left foot has less total contact area, higher pressure values, lower arch index, more laterally located center of pressure, and higher medial arch than that of the right one.

Key words: Achilles tendon; rupture/surgery; thromboembolism.

"Akut Aşil tendonu yırtıklarının cerrahi tedavisi 15 yıllık takipte yapısal değişikliklere neden olur mu?" sorusuna yanıt veren bir olgu sunduk. Hastanın yakınması sadece sol ayağını sağa oranla daha küçük hissetmesiydi. Dinamik pedobarografi (EMED-SF, Novel, Münih) ile sol ayakta daha az total temas alanı, daha yüksek basınç değerleri ve düşük bir ark indeksi var olduğu, basınç merkezinin daha lateralde olduğu ve medial arkın sağdakinden daha yüksek olduğu tespit edildi.

Anahtar sözcükler: Aşil tendonu; rüptür/cerrahi; tromboembolizm.

Achilles tendon ruptures occur at higher rates in the middle-aged population due to age-related changes. Initiating the degenerative changes are decreasing elasticity and function of the tendon.[1] Operative and nonoperative treatment of acute Achilles tendon ruptures, using conventional or accelerated functional rehabilitation, has some complications.[2-6]

We describe a case which answers the question "Does the surgical repair of acute Achilles tendon rupture cause structural changes on 15-year follow-up?"

CASE REPORT

A 60-year-old male patient had acute left Achilles tendon rupture 15 years ago. He had surgical treatment with modified Bosworth technique. There was no complication in the short term period.

The only complaint was a feeling that the size of the left foot was smaller than the right side.

The last physical examination at 15 years revealed no significant difference between two sides for walking, running, climbing down stairs, rising on heels, rising on toes, single-limb stance, laxity of the ankle joint and dorsiflexion range of motion (10 degrees in both sides).

Dynamic pedobarography (EMED-SF, Novel, Munich, Germany) demonstrated that the left foot had less total contact area, higher pressure values, lower arch index, more laterally located center of pressure (COP), and higher medial arch than the right foot (Table I, Figure 1).

DISCUSSION

Complications have been recognized after both non-operative and operative techniques. These include rerupture, sural nerve morbidity, wound healing problems, changes in tendon morphology, venous thromboembolism, elongation of the tendon,

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TABLE I

Dynamic pedobarography results for the right and left feet

	Right foot	Left foot
Total contact area (cm^2)	175.5	171.5
Peak pressure value (N/cm^2)		
Forefoot	31	40
Midfoot	10.5	14.5
Hindfoot	31	34
Arch index	0.33	0.26
Mediolateral area difference with the reference of center of pressure (cm^2)	2.12	3.19

complex regional pain syndrome, and compartment syndrome.[6]

In our case, the left foot had less total contact area, higher pressure values, lower arch index, more laterally located center of pressure, and higher medial arch than the right.

Our explanation for this situation is contraction of the Achilles tendon probably forces the heel to varus position which causes higher medial arch and the pressure pattern to shift laterally. Further studies with more patients are necessary to find out the biomechanics of the pathology.

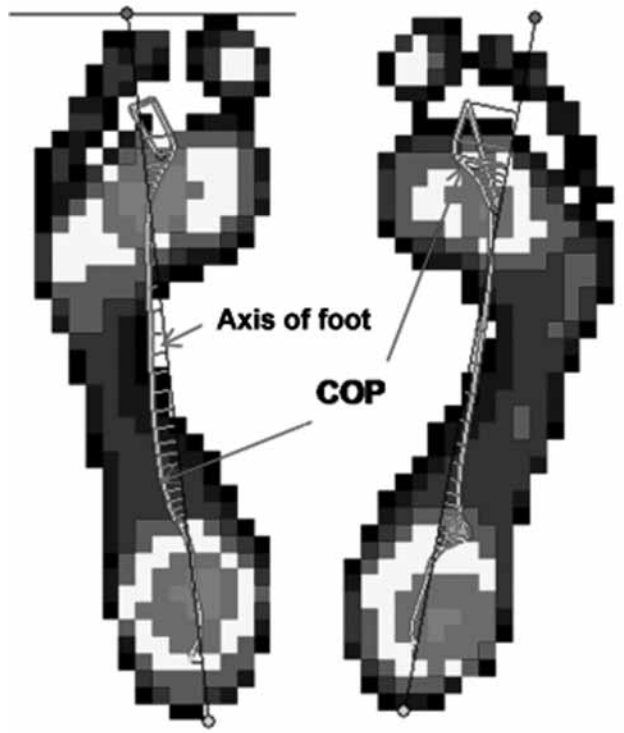

Figure 1. Dynamic pedobarography pictures of the right and left feet. Center of pressure (COP) is more laterally located on the left foot. Medial arch is higher in the left foot.

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