Wear pattern on the bottom of tennis shoe after surgical repair of acute Achilles tendon rupture: 22-year follow-up

A 67-year-old male patient had acute left Achilles tendon rupture 22 years before. 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 22 years revealed no significant difference between two sides for walking, running, climbing, rising on heels, rising on toes, single-limb stance, laxity of the ankle joint, or range of motion in ankle.

However, there were structural changes in 15-year follow-up. 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 1, Figure 1).

The patient was a frequent tennis player; he was playing tennis three times a week. In last two
years, he recognized a different wear pattern on the bottom of his tennis shoe. The wear pattern was well-matched with dynamic pedobarography. In left shoe with less total contact area and higher pressure values, there was more wear compared to right shoe (Figure 2). A written informed consent was obtained from the patient.

**DISCUSSION**

Many complications have been reported after both nonoperative and operative techniques for the treatment of Achilles tendon ruptures. In our case, 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. These structural changes caused a different wear pattern in the tennis shoe. Further studies with more patients are necessary to find out the biomechanics of this pathology that orthopedic surgeons should be aware of and inform their patients accordingly.

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