

The Effects of Performing Salaat on the Prognosis of Calcaneal Spur

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Introduction: The place of the movements of performing salaat might be important in the etiology and/or treatment of orthopedic pathologies and the prognosis. The study aimed to search the effects of movements of performing the salaat on calcaneal spur prognosis.

Material and Methods: A total of 44 patients who presented to our clinic had a history of plantar pain for at least one month, and with plantar fasciitis was detected on the lateral foot graphy, and received at least one of ESWT or simple analgesic therapies. The participant were separated into 2 groups as prayers and non-prayers. All the patients were under non-steroidal anti-inflammatory drugs and extracorporeal shock wave therapy treatment.

Results: The prognosis of calcaneal spurs were very similar between the groups. There was no statistically significant difference between them ($p>0.05$).

Conclusion: Performing the salaat doesn't have any effect on calcaneal spur prognosis and calcaneal spur symptoms. According to our study, plantar facies stretching movements during prayer don't have positive or negative effects on the prognosis of calcaneal spur disease

Keywords: Calcaneal spur, orthopedic biomechanics, salat

Introduction

Plantar heel pain is one of the most commonly encountered problems of feet in adults (1). Plantar fasciitis is one of the causes of plantar heel pain, occurring in the adhesion site of the plantar fascia to the calcaneal tuberosity (2). It is more common over 40 years of age and in women. The pain is typical with the first contact of the feet with the ground (1).

Orthopedic shoes, the use of arch support, stretching exercises, NSAID (nonsteroidal anti-inflammatory drugs), local injections of corticosteroids/analgesics, ESWT(extracorporeal shock

wave therapy) and physiotherapy modalities have been described in the treatment of plantar fasciitis (2-4). For instance, whereas performing salaat sitting on the ground is recommended for the symptomatic treatment of advanced gonarthrosis, there are no sufficient data about the relationship between calcaneal spur and salaat. We believe that the place of movements of performing salaat (Figure-1) in the etiology and/or treatment of orthopedic pathologies and their effect on the prognosis should be investigated. In this study, we investigated the effect of salaat on the plantar fasciitis.

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Materials and Methods

A total of 44 patients who presented to our clinic between June 2014 and June 2016, had a history of plantar pain for at least one month, and with plantar fasciitis was detected on the lateral foot graphy, and received at least one of ESWT or simple analgesic therapies were included in the study. Patients without pain during first stepping on the ground in the morning, patients who had symptoms lasting for shorter than one month, who had pain not under, but behind the foot, patients with a recent history of trauma to the heels, and those with rheumatoid arthritis were excluded.

All patients were informed face-to-face about the study and gave voluntary consent forms. The patients were questioned about age, gender, duration of the symptoms, whether they had received ESWT (15 Hz frequency, 2.0 Barr density, and 2000 pulse/session), whether analgesic therapy had been administered, whether they perform salaah and its relationship with the symptoms. The forty-four patients were divided into two groups as 30 patients who were performing salaah composed the Group-1, and 14 patients who were not performing in the Group-2. Both groups were evaluated in themselves for demographics. Visual analog scale was used to evaluate the severity of pain.

Statistical analysis

Statistical calculations were made by SPSS 21 (SPSS, Chicago, IL, USA). Group comparisons were performed using Chi-square and T-test. A $p < 0.05$ was considered statistically significant.



Figure 1. Feet movements during the salaah

Results

First, it was confirmed that none of the patients discontinued performing salaah after the onset of plantar fasciitis, and none of the patients who had not performed salaah previously began to performing after plantar fasciitis. Of all patients, 30 (68%) were female and 14 (32%) were male. Plantar fasciitis was right-sided in 22 and left sided in 22 patients, as seen in table-1.

Table 1. Comparison of age, symptoms and treatment programs between two groups

Parameters	Prayers	Non-Prayers	P
Age (<i>years</i>)	49,6	52,3	0,831
Symptom Duration (<i>month</i>)	18,3	20,6	0,128
VAS Score Before Medication/ESWT	8	7,8	0,21
VAS Score After Medication/ESWT	4,2	3,4	0,186

The mean age was found as 51,4 (range: 34-72 years), 49.6 in the group performing salaah and 52.3 in the group not performing salaah. The mean duration of symptoms was 18 (2-48 months) and 20 (1-42 months) in the Group-1 and 2; respectively. No significant difference was observed between both groups in terms of the duration of symptoms ($p=0,128$).

It was found that 20 patients received and 10 patients did not receive ESWT therapy in the Group-1, while 6 patients received ESWT therapy and 6 patients did not receive in Group-2. VAS scores before and after medical therapy or ESWT were found as 8 and 7.8 in the Group-1; 4.2 and 3.4 in the Group-2. No significant difference was found between the two groups in terms of the follow-up pain severities.

Discussion

Physicians working in the societies where most of the people consist of Muslims, it obvious that religious sensitiveness should be considering in the treatment planning. Salaat which is one of the five imperatives of Islam is a form of worship with praying together with repeating movements. In other words, salaat is a ritual of coordinated, harmonic spiritual and physical movements. It has numerous moral benefits. Salaat is performed five times a day as fajr, midday, afternoon, sunset, and Isha prayers.

The facts such as giving advice to patients with advanced knee osteoarthritis for performing salaat by sitting and extending feet forwards or benefits of salaat making people to periodically perform numerous joint movements confirms that the relationship between orthopedic issues and salaat should be separately described on each topic. The objective of this study was to investigate the effect of salaat consisting of repetitive movements on plantar fasciitis in patients who regularly perform salaat five times a day. Therefore, in addition to the group consisting of patients who perform salaat, the comparison was made with the group including the patients which do not perform salaat.

The most common causes of plantar heel pain is overuse, obesity and foot deformities, inflammation of the plantar fascia, training and the use of improper shoes (3). The diagnosis of plantar fasciitis can be established in the presence of plantar pain accompanied by the inferior calcaneal spur. The patient experienced severe pain when first standing on the feet (5).

Some of the most common causes of the differential diagnosis of calcaneal spur include plantar fasciitis, fat pad atrophy, and calcaneus stress fractures. Attention should be given to tumoral lesions especially in chronic plantar

heel pain felt during resting in the patients evaluated for plantar heel pain (5, 6).

The incidence of plantar fasciitis increases with age (7). It is usually seen over 40 years of age (2). In our study, patients aged between 34 and 72 years were seen with a mean age of the onset being 51,4. In the present study, the prevalence of plantar fasciitis showed serious predominance in women (68%). Many previous studies reported that this disease was more common among women (4,5). In our study, the rates of the affected right and left sides were equal.

The goal of the plantar fasciitis treatment is relieving the pain rather than resolving of the plantar fasciitis. For this purpose; orthopedic shoes, the use of insock, plantar fascia stretching exercises, NSAIDs, local injections of corticosteroids/analgesics, ESWT, and other physiotherapy modalities have been described (2-5). Calcaneal spur treatment requires surgery rarely (5). In our study, we investigated the effect of performing salaat on the prognosis, and the conservative treatments used by the patients were the use of NSAIDs or ESWT.

In studies conducted about ESWT therapy for plantar fasciitis, there are differences in terms of the number of sessions, the number of pulses in each session and the duration between two ESWT sessions, and also its effectiveness differs from one study to the other (3). In our study, VAS scores were significantly improved in both groups with NSAID and ESWT treatment administered as specified. One of the plantar fasciitis conservative treatment protocols is stretching exercise. In a study by Davis et al. with 130 patients, the most effective method in the treatment of plantar fasciitis treatment was found as stretching exercises (8). This study was done considering that the movement of

performing salaah may decrease the symptoms of plantar fasciitis, but no statistical difference was found. Perhaps, further studies with a larger number of patients may obtain different results.

Conclusion

No changes were observed in the symptoms of plantar fasciitis with performing the salaah. As a result, plantar fascia stretching movements during the salaah does not positively affect the prognoses and do not worsen the symptoms.

Conflict of Interests

The authors declare that they have no conflict of interest in the current study.

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