Original article

The Occurrence of Calcaneal Spurs In Plantar Fasciitis Patients

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Abstract

Objective: The aim of this study is to find out the occurrence of calcaneal spurs in plantar fasciitis patients.

Methods: Patients with planter fasciitis were diagnosed in the rheumatology clinic at Prince Rashed Hospital and Prince Hashem Hospital. Only 140 eligible patients were exposed to careful examination and hind foot lateral radiographs. All patients were observed in regards to their age, weight and calcaneous bone X-Ray. For calcaneal spurs occurrence, the patients were divided into two groups; (present, absent). Data analysis was done based on simple statistical methods and Chi-squares tests.

Results: Planter fasciitis occurrence increase with the increase in age and weight (80%, 76% respectively) (Ps < 0.05). 98 patients out of 140 of patients with planter fasciitis were diagnosed with calcaneal spurs (70%) (Ps < 0.05).

Conclusion: This study shows that there is a positive relation between calcaneal spurs and planter fasciitis.

Keywords: *Calcaneal Spur, Plantar Fasciitis,*

Introduction

Plantar fasciitis is a frequent cause for heel pain (1) and (2). It is the consequence of a degenerative process of the plantar fascia on its calcaneal attachment(30).A number of involving risk factors, such as age, weight gain and heel pad compressibility index, have been recognized (4,5).

Calcaneal spurs possibly will cause plantar heel pad pain (3). The supposition of heel spur as a major source of heel pain has been rejected (6). Conversely, it could be responsible for pain, if of considerable size, by entrapping the direct branch from the lateral plantar nerve (6).On the other hand, Lateral heel radiographs have provided evidence of a considerable involvement of calcaneal spurs in plantar heel pain (7).

The implication of calcaneal spurs as a cause of plantar fasciitis has been extensively researched (7-10). The aim of this cross sectional study is to show the relation between plantar fasciitis and calcaneal spurs, and this was applied through the determination of the occurrence of calcaneal spurs in the plantar fasciitis patients.

Methods

Patients with planter fasciitis were diagnosed in the rheumatology clinic at Prince Rashed Hospital and Prince Hashem hospital in the period between January and November 2012. Only 140 eligible patients were included and exposed to careful examination and hind foot lateral radiographs.

All selected patients were observed with regards to their age, weight and calcaneous bone X-Ray. The patients were divided into two age groups: First group (20-40 years) and second group (>40 years), and into two weight groups as well: First group weight (<80 Kg) and second group weight (>80 Kg).

For calcaneal spurs occurrence, the patients were assembled into two groups; present and absent. This was determined by the observers according to the manifestations of the spur in the posterior foot lateral radiographs.

Data collection and records were carefully completed via word EXEL 2007. Data analysis was done using simple statistical methods and Chi-Squares tests. Results were saved for detailed interpretation.

Results

The results of this study show that the planter fasciitis occurrence significantly increase with the increase in age and weight gain (80%, 67% respectively) (Ps < 0.05), as shown in tables I and II.

Table I. The age of patients with planter fasciitis

Age of patients with planter fasciitis	Patients number	Percentage
20-40 years	28	20%
>40 years	112	80%

Table II. The weight of patients with planter fasciitis

Weight in patients with planter fasciitis	Patients number	Percentage
<80 Kg	34	24%
>80 Kg	106	76%

The majority of patients with planter fasciitis were diagnosed with calcaneal spur 98 patients out of 140 patients represents the whole sample (70%) (Ps < 0.05), as shown in table III.

Table III. The percentage of **c**alcaneal spurs in Patients with planter fasciitis

Calcaneal spurs in Patients with planter fasciitis	Patients number	Percentage
Absent	42	30%
Present	98	70%

Chi-squares tests were applied to show the relation between the calcaneal spurs along with the age and weight. The tests revealed that the calcaneal spurs increased with the increase in the age and weight (88.8 %, 85.7 % respectively) (Ps < 0.05), as shown in tables IV and V.

Table IV. Age of patients with calcaneal spur

Age of patients with calcaneal spur	Patients number	percentage
20-40	11	11.2%
>40	87	88.8%

Table V. Weight of patients with calcaneal spur

Weight of patients with calcaneal spur	Patients number	percentage
<80 kg	14	14.3%
>80 kg	84	85.7%

Discussion

For the reason that the heel pain is presenting a common problem (1), planter fasciitis and calcaneal spurs have been widely researched from different aspects. In modern populations, calcaneal spurs are more frequent in older patients; the increase peaks at age of 60 (11,12). These results are matching with our study results that the calcaneal spur increase with age. Obesity has also a role in calcaneal spurs development (13) and (14); comparable with our study results that calcaneal spurs increase with the increase in weight as well. This could be explained by the information that about80% of body load is sited on the heel for the extent of normal posture (15). Many researches did not support the hypotheses regarding calcaneal spur formation and pathology (6), but the clinical literature provides evidence that calcaneal spurs may result in heel pain (16-18). Calcaneal spurs, in contrast, are not significantly associated with planter fasciitis (19). These results are nonparallel with previous study was done by Johal and Milner in 2012 which proved the significant association between calcaneal spurs and planter fasciitis (7). Along with our study, the results revealed that calcaneal spurs increase with planter fasciitis. These conflictions can be related to the differences in the methodologies between studies.

Within the limitation of the current study, Additional researches would be necessary to support its results. More specific examination with long term observation for wider population of planter fasciitis is recommended by the authors. Furthermore, the activity nature would be of assistance in understanding the causal and effect relation between planter fasciitis and calcaneal spurs then study it.

Conclusion

The recent study shows that there is a positive relation between plantar fasciitis and calcaneal spurs. Nevertheless, broader researches are necessary to support that.

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