ASSESSMENT OF PLANTAR FASCIITIS AMONG ADULTS HAVING HIGHER BODY MASS INDEX AND GLUCOSE INTOLERANCE IN A MEDICAL INSTITUTE OF RAIPUR

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ABSTRACT

INTRODUCTION

Plantar Fasciitis is reported to be the most common cause of inferior heel pain in diabetic and non diabetic patient population.1 Calcaneal spurs (CS) have commonly been implicated as a risk factor for PF.2 Approximately one-half of patients diagnosed with PF have heel spurs.3 Calcaneal spur (CS) is a small osteophyte (bone spur) located on the calcaneus (heel bone) causes severe heel pain on walking and causes morbidity. An inferior calcaneal spur is located on the inferior aspect of the calcaneus and is typically a response to plantar fasciitis over a period, but may also be associated with ankylosing spondylitis (typically in children). A posterior calcaneal spur develops on the back of the heel at the insertion of the Achilles tendon. A posterior calcaneal spur is often large and palpable through the skin and may need to be removed as part of the treatment of insertional Achilles tendinitis. CS was diagnosed by clinically clinical examination of foot and confirmed by a radiological evaluation. Aydogan aydogdu et al 4 has shown that CS occurs commonly in patients with obese diabetes. Roxas M 5 studies have identified obesity or sudden weight gain, reduced ankle dorsiflexion, pes planus, and occupations that require prolonged weightbearing as the greatest risk factors associated with CS syndrome. To this purpose we have evaluated the frequency of calcaneal spur (CS) in obese patients with Type-2 diabetes.

Present study was carried out as Plantar fasciitis (PF) is a degenerative syndrome of the plantar fascia resulting from repeated trauma at its origin on the calcaneus. PF is reported to be the most common cause of inferior heel pain in diabetic and non diabetic patient population. Calcaneal spurs (CS) have commonly been implicated as a risk factor for PF. Peripheral neuropathy seems to be the main reasons Existence seems to be in a relationship with diabetic complications; therefore, obese diabetic patients may be more prone to these complications. Therefore, weight reduction should be encouraged in these patients.

METHODOLOGY

After local ethical committee approval study was done Over a period of 3 months. A cross sectional Analytical study was conducted. Both male and female Obese (BMI ≥30 kg/m2), type 2 diabetic patients above the age of 18 years, with a history of plantar heel tenderness and/or pain were included in the study. Patients with any history of trauma to the heel within the previous 3 months were excluded. Demographic and duration of diabetes data was collected from the patients. Additionally, laboratory data as available from records were also noted. All patients underwent peripheral neuropathy examination and Calcaneal x-rays.

Peripheral neuropathy was assessed by thermal threshold testing for hot and cold in the left foot, vibration threshold in the left hallux, and malleolus and left great toe and microalbumin test. Peripheral nerve abnormalities were defined as 9% of the normal range in a non-diabetic adolescent control group. Standing height and body weight were measured in light indoor clothing without shoes. Body mass index (BMI) was calculated as weight divided by height squared (kg/m2). All the variables were analyzed using the 2 t test; continuous variables were analyzed using the test. Correlations between variables were calculated via Spearman correlation test. A significance level of 0.05 was used in all analyses. Information was analysed by using the Microsoft Excel and SPSS ( Version 20, IBM , USA).

RESULTS

A total of 65 obese diabetic patients were included into the study. The mean age of the patients was 54±5.8 years. There were 25 males and 40 females. The median duration of diabetes was 4.2 years (1-10 years). The mean HbA1c was 8.4±0.9. Among them 21 (32.8%) were having plantar fasciitis.

DISCUSSION

The purpose of the study was to evaluate the prevalence and correlates of plantar calcaneal spurs in obese diabetic population. As obesity is a well-recognized risk factor for heel pain. CS range has been previously reported as 11%-16% in young to middle aged healthy populations. The strongest association with calcaneal spurs was obesity, with 45% of participants classified as obese having spurs, compared to only 9% of those who were not obese. The range of CS (70%) in our obese patients with T2DM is in accordance with Bassiouni, who reported a 72% incidence rate of CS in patients with rheumatologic disorders above the age of 61.' Diabetes mellitus was reported as a risk factor for CS in this meta-analysis. Thickening of the plantar fascia has been shown in patients with T2DM.7 Diabetes duration and HbA1c levels were significantly different within the T2DM group, with regard to the presence of CS. This can be explained by the fact that it is difficult to predict the time for the onset of T2DM and consequently the duration of the disease. T2DM may have existed in a patient for a long time before the diagnosis. HbA1c may change gradually in patients with lifelong T2DM. The existence of peripheral neuropathy, increasing age, and higher BMI, seem to be the main reasons of CS formation. CS may have a relationship with different diabetic complications. These patients may be prone to foot ulcers.
CONCLUSION:
The presence of peripheral neuropathy and poor diabetes control seems to be the main reasons of CS formation. CS existence seems to be in a relationship with diabetic complications; therefore, obese diabetic patients may be more prone to these complications. Therefore, weight reduction should be encouraged in these patients not only for metabolic control but also for the development of CS.

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