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Full Length Research Paper

Plantar Fasciitis among Nigerians

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Plantar fasciitis is a common pathological condition of the foot. It causes heel pain in active as well as sedentary adults of all ages. It is a disorder of degenerative changes in the fascia. The condition is more likely to occur in persons who are obese or in those who are on their feet most of the day. The study populations were those who presented at the rheumatology clinic with heel pain. The study was carried out over three and a half years. 20 patients were seen over three and a half years spanning between July 2009 and December 2012. There were 7 (35 %) men and 13 (65 %) women with a male to female ratio of 1: 1.9. 6 (30 %) patients were obese, 4 (20 %) overweight, and 10 (50 %) were of normal weight. 18 (90%) had one foot affected and 2 (10 %) had both feet affected. Most of our patients benefited from conservative management. Plantar fasciitis is relatively common in the society. Women were more affected in this study, and conservative method of treatment achieved a good result. This result however may not be a good representation of what obtains in the society because it was a hospital based study.

Keywords: Plantar fasciitis, Rheumatology clinic, Nigeria.

INTRODUCTION

Plantar fasciitis has been defined as a syndrome that results from repeated trauma to the plantar fascia at its origin on the calcaneus (Singh et al., 1997; Lemont et al., 2003). It is being said that up to 10% of the population may present with heel pain over the course of their lives (Amis et al., 1988).

Plantar fasciitis is multifactorial in aetiology. Intrinsic factors include age, excessive foot pronation, obesity and limited ankle dorsiflexion. Extrinsic factors include occupational prolonged weight bearing, inappropriate shoe wear, and rapid increases in activity level (Irving et al., 2006; Buchbinder, 2004; Furey, 1975). These factors

combine to create a pathological overload of the plantar fascia at the calcaneal insertion, causing microtears in the fascia that subsequently lead to per fascial oedema and increasing heel pad thickness (Wearing et al., 2007).

Plantar fasciitis can also be associated with various seronegative spondyloarthropathies, but in approximately 85% of cases there are no known systemic factors (Narvaez et al., 2000; Cornwall and McPoil, 1999).

The most common symptom associated with plantar fasciitis is pain and discomfort in the inferior heel region, which is aggravated on weight –bearing after a period of non-weight –bearing (Kosmahl and Kosmahl, 1987; Taunton et al., 1996). Pain is more in the morning when arising from bed, but the discomfort will slowly subside within one hour. The pain usually resumes with continue weight bearing activity, and it may limit daily activities (Bordelon, 1983).

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Diagnosis of plantar fasciitis is based on the patient's history and the physical examination. Diagnostic imaging is not helpful in diagnosing plantar fasciitis (Neufeld and Cerrato, 2008), but it should be considered if another diagnosis is strongly suspected. Non-surgical treatment is the best treatment of choice.

MATERIALS AND METHODS

The study populations were patients that presented at the private rheumatology clinic in the South West, Nigeria, with history of plantar pain. People with obvious inflammatory arthritis were excluded from the study. Patients were seen over a period of three and half years (July 2009- December 2012). No diagnostic imaging was carried out on all the patients.

RESULTS

There were 7 (35 %) men and 13 (65 %) women. There were 2 (10 %) obese men and 4 (20 %) obese women. 1 (5 %) man was overweight and 3 (15 %) women were overweight. Half (50%) of the patients were of normal weight. 18 (90 %) of the patients had only one foot affected and only 2 (10 %) had both feet affected in alternate pattern. The age range of patients was 20-65 years with a means of 36 years. 16 (80 %) were civil servants and 4 (20 %) were self-employed. 10 (63 %) of the civil servants were senior staff and 6 (37 %) were junior staff.

None of the patients had metabolic abnormalities, while only 6 (30 %) were hypertensive. None had inflammatory arthritis or inflammatory back pain.

All the patients were placed on conservative management with the use of simple analgesics and non-steroidal anti-inflammatory agents where necessary. Only two (10 %) patients had intra-lesion injection of triamcinolone (kenalog).

14 (70 %) patients did well on non-surgical management, 4 (20 %) patients still had troublesome pain, while 2 (10 %) were lost to follow up. None of the patients was referred for surgery.

DISCUSSION

Plantar fasciitis commonly causes inferior heel pain and is said to occur in up to 10% of the population. It can occur in all adults who live active and sedentary lives (Dunn et al., 2004). It is said to occur commonly in obese individuals who spend most of the day on their feet. The pain is believed to be due to acute and chronic injury to the plantar fascia from its origin (Thomas et al., 2010).

Women are mostly affected (65 %) in this study. The current literature is inconsistent regarding the association

between sex and plantar fasciitis, some studies showed an increase prevalence in men (Taunton et al., 2002; Lapidus and Guidotti, 1965). While others showed an increased prevalence in women (Davis et al., 1994; Rano et al., 2001).

In a retrospective case-control study of running athletes, Taunton et al found a significant sex difference within their study population, as 54% males and 46% females were affected (Taunton et al., 2002). In contrast, Rano et al in a prospective study including athletes of varying skill levels found a higher percentage of women with heel pain (66.1% compared with 42.6%; $P=0.015$) (Rano et al., 2001). However, in the current literature of plantar fasciitis, there are no theories hypothesizing the reason for a difference in the prevalence of plantar fasciitis between the two sexes.

This study did not demonstrate any significant effect of overweight or obesity on the development of plantar fasciitis. Plantar fasciitis was equally found among the normal and abnormal weight individuals.

Some studies however were able to demonstrate that increased body weight (Hill Jr and Cutting, 1989) and increased body mass index (BMI) (Irving et al., 2007; Ozdemir et al., 2005) are significant risk factors for plantar fasciitis. Frey and Zamora demonstrated a 1.4 fold increase probability of plantar fasciitis being diagnosed in overweight or obese patients (Frey and Zamora, 2007). Rome et al suggested that BMI is not related to plantar fasciitis pain in the athletic population (Rome et al., 2002). while Riddle et al hypothesized that reduced ankle dorsiflexion is the most important risk factor for plantar fasciitis (Riddle et al., 2003).

Majority of the population (80 %) in this study were civil servants and were not involved in high level of physical activity. Some studies have shown an association between work-related prolonged weight bearing and development of plantar fasciitis (Sadat-Ali, 1998; Pfeffer et al., 1999). Other studies have also demonstrated the association of plantar fasciitis with high level of physical activity. Scher et al accessed a database from the United State Armed Forces and found an overall incidence of plantar fasciitis in the military population to be 10.55 per 1000 person per year and that, female sex, black race, junior enlisted, senior officer rank groups, and age greater than 24 years old were significant risk factors for the development of plantar fasciitis in Army when compared to male sex, white race, junior officers rank, and age 20 to 24 years in the Air force (Scher et al., 2009).

Most of the patients (70 %) did well on non-surgical management. Local conservative management that works for most of our patients was rolling their plantar surface on an empty bottle of mineral or a can with the content intact. This serves as a form of stretching exercise for the plantar fascia.

Fourteen of our patient did well on conservative management and this finding agrees with earlier studies.

Prognosis of plantar fasciitis is good with most patients eventually achieve improvement (Buchbinder, 2004). In one long-term follow-up study investigators found that 80 percent of patients treated conservatively for plantar fasciitis had complete resolution of pain after four years (Wolgin et al., 1994). Literature however indicates that if pain and disability persist despite attempt to treat symptoms with non-surgical methods, then surgical intervention is indicated (Crawford et al., 2002).

Authors would like to conclude with the recommendation that plantar fasciitis be treated with conservative management. Although, no data support the use of non-steroidal anti-inflammatory drugs, they are reasonable choice of adjunctive therapy (DiGiovanni et al., 2003; Gill, 2004).

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