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Diagnosis and management of plantar fasciitis in primary care

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INTRODUCTION

Plantar fasciitis (PF) is a common overuse injury that occurs as a result of repetitive traction forces on the plantar fascia at its origin over the distal calcaneus. It accounts for 8–10% of running related injuries and 80% of heel pain, and is commonly seen in primary care.[1,2] Individuals with pes planus (flat foot) and pes cavus (high arch) deformity are at increased risk of developing PF, as are individuals who wear poorly supporting footwear and who undertake excessive walking or weight bearing activity (often job-related such as 'policeman's heel'). Previous heel pain and a high body mass index are also risk factors for plantar fasciitis. It commonly occurs in middle-aged individuals with an equal preponderance in males and females and has a lifetime prevalence of 10%.[2]

DIAGNOSIS

Heel pain tends to develop insidiously and characteristically affects the medial aspect of the heel, radiating into the arch of the foot. Pain tends to be worse in the morning with maximal discomfort on the initial steps after getting out of bed. The ache usually 'warms up' with movement, however as the condition progresses, pain may be experienced during activity. Diagnosis is usually made on a clinical basis, however, thickening and swelling of the plantar fascia may be demonstrated on ultrasound. A calcaneal spur may be seen on X-ray however this finding is not causally related to the pain of plantar fasciitis and X-ray is not recommended in the management algorithm.[3] Differential diagnoses include fat pad contusion in the heel, calcaneal fracture, retrocalcaneal bursitis, and nerve entrapment syndromes.[4] Fat pad contusion is often treated in a similar way to plantar fasciitis with soft heel inserts and modification of activity. Calcaneal fracture may present with localised tenderness and occurs after trauma or recurrent activity (stress fracture). It is investigated primarily with plain X-ray. Retrocalcaneal bursitis presents with insertional achilles tendon discomfort, located in a more posterior position.

Plantar fasciitis may be triggered by a recent change in footwear and an increase in activity levels (recreational and non-recreational). It is important to enquire about other previous enthesopathies, such as, achilles tendinosis or tennis elbow (lateral epicondylopathy) that may lead the clinician to suspect additional diagnoses such as ankylosing spondylitis. If symptoms are bilateral or associated with systemic features then Reiter's syndrome or rheumatoid arthritis may also need to be considered.[5]

Tenderness is commonly demonstrated at the antero-medial aspect of the plantar calcaneum, radiating into the arch of the foot.[4] This may be exacerbated by stretching the arch with dorsiflexion of the big toe. Tightness of the calf muscles are considered to be a contributory factor in the development of plantar fasciitis and can be demonstrated in these individuals using the 'lunge' or 'knee to wall' test.

TREATMENT

An early or 'reactive' plantar fasciitis may settle with relative rest and conservative measures, however, patients with chronic symptoms may require a more intensive rehabilitation regime.

Management involves stretching and strengthening of the plantar fascia, while attempting to reduce or correct any precipitants, such as excessive heel impact and poorly supportive shoes.

Stretching of the plantar fascia is achieved by placing the toes against a wall, with the heel on the floor, pushing downwards so that the arch of the foot lengthens. Calf stretches with a slightly flexed (soleus) and fully extended (gastrocnemius) knee may also prove

beneficial. Night splints or 'Strasbourg socks' may provide some relief by holding the foot in dorsiflexion, passively stretching the plantar fascia.

Strengthening of the intrinsic foot muscles can be performed by pulling a towel towards the heel using the toes. Self-massage may help alleviate symptoms and can be performed by rolling a golf ball or frozen bottle beneath the painful arch.

Gel-based inserts may reduce the impact forces upon the heel during activity, while orthoses and footwear with well-supported arches may help to correct the effects of any biomechanical errors.

Weight loss in overweight individuals helps to reduce the impact forces on heel strike, leading to symptomatic improvement. Runners may be advised to reduce load by cross-training, using swimming or cycling to replace part of their normal running regime.

Injection of corticosteroid into the proximal plantar fascia often results in short-term pain relief but may increase the risk of rupture and can lead to atrophy of the heel fat pad, causing prolonged pain.

Localised injection of autologous blood or platelet-rich plasma has recently gained favour among musculoskeletal specialists as a potential treatment for plantar fasciitis with promising early results, however long-term evidence is currently lacking and it is not currently utilised in primary care.[6,7]

NICE has also approved Extracorporeal Shockwave Therapy (ESWT) for the treatment of intractable plantar fasciitis with encouraging results.

Intractable plantar fasciitis may require onward referral to a sport and exercise medicine physician, enabling further investigation and specialist management as mentioned above.

Surgery may be offered in recalcitrant cases, when conservative measures have failed (6–12 months). Surgery tends to offer good functional outcomes in the majority of cases.[4,5]

PATIENT EDUCATION

Further information for patients can be found at http://www.patient.co.uk/health/Plantar-Fasciitis.htm

Provenance

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