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Plantar Fasciitis: What Does the Evidence Show?

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Introduction

Plantar Fasciitis (PF) is caused by repetitive and excessive tensile stress applied to the PF, which leads to fibrosis and inflammatory and degenerative changes. The PF is a membrane that connects the heel bone and the toes, and has a thick structure with bonding strength. PF plays a complex role in the protection and support of the foot itself, and is also important for support of body weight [1-5].

There are several well-characterized causes of plantar fasciitis: A flat foot, a supinated foot, a tight Achilles tendon, age, excessive walking or standing, poorly cushioned footwear, obesity, occupations with prolonged standing, pes planus (flat feet), pes cavus (high-arched feet), overpronation (inward roll), weak plantar flexor and intrinsic muscles of the foot, running for exercise or competition and other conditions that reduce the shock-absorbing power of the feet. PF is painful, can alter daily activities and presents as a sharp pain localized to the plantar foot and medial heel [6].

The aetiology involves microtrauma to the plantar fascia, specifically at its insertion point on the calcaneus, has been speculated to be associated with weakness of the intrinsic foot muscles might contribute to PF by destabilizing the medial longitudinal arch. Patients who are excessive pronators or have reduced ankle dorsiflexion is also at a higher risk of developing PF [7-14].

Leeuwen et al. [15] and colleagues reported 51 studies (1 prospective, 46 case-control and 4 cross-sectional studies) evaluated a total of 104 variables. Higher Body Mass Index (BMI) (BMI>27, OR 3.7 (95% CI 2.93 to 5.62)) in patients with PF was the only significant clinical association, and its effect was the strongest in the non-athletic subgroup. In patients with PF compared to controls, pooled imaging data demonstrated a significantly thicker, hypoechogenic plantar fascia with increased vascular signal and perifascial fluid collection. In patients with PF were more likely to have a thicker loaded and unloaded heel fat pat, and bone findings, including a subcalcaneal spur and increased Tc-99 uptake. The evidence supports a range of bone and soft tissue abnormalities.

The authors found a consistent clinical association between higher BMI and plantar fasciopathy, and this association may differ between athletic and non-athletic subgroups.

References

1. Melvin TJ, Tankersley ZJ, Qazi ZN, Jasko JJ, Odono R, et al. (2015) Primary care management of plantar fasciitis. W V Med J 111: 28-32.
2. Cheung RT, Sze LK, Mok NW, Ng GY (2015) Intrinsic foot muscle volume in experienced runners with and without chronic plantar fasciitis. J Sci Med Sport .
3. Hedrick MR (1996) The plantar aponeurosis. Foot Ankle Int 17: 646-649.
4. Tanner SM, Harvey JS (1988) How we manage plantar fasciitis (With Memory Jogger). Phys Sportsmed 16: 39-40.
5. Pfeffer G, Bacchetti P, Deland J, Lewis A, Anderson R, et al. (1999) Comparison of custom and prefabricated orthoses in the initial treatment of proximal plantar fasciitis. Foot Ankle Int 20: 214-221.
6. Agyekum EK, Ma K (2015) Heel pain: A systematic review. Chin J Traumatol 18: 164-169.
7. Landorf KB (2015) Plantar heel pain and plantar fasciitis. BMJ Clin Evid 2015.
8. Fenwick SA, Hazleman BL, Riley GP (2002) The vasculature and its role in the damaged and healing tendon. Arthritis Res 4: 252-260.
9. Maffulli N, Sharma P, Luscombe KL (2004) Achilles tendinopathy: Aetiology and management. J R Soc Med 97: 472-476.
10. Ballas MT, Tytko J, Cookson D (1997) Common overuse running injuries: Diagnosis and management. Am Fam Physician 55: 2473-2484.
11. Cassas KJ, Cassettari-Wayhs A (2006) Childhood and adolescent sports-related overuse injuries. Am Fam Physician 73: 1014-1022.
12. Schwartz EN, Su J (2014) Plantar fasciitis: A concise review. Perm J 18: e105-107.
13. Pollack A, Britt H (2015) Plantar fasciitis in Australian general practice. Aust Fam Physician 44: 90-91.
14. Buchbinder R (2004) Clinical practice. Plantar fasciitis. N Engl J Med 350: 2159-2166.
15. Van Leeuwen Kd, Rogers J, Winzenberg T, Van Middelkoop M (2015) Higher body mass index is associated with plantar fasciopathy/'plantar fasciitis: Systematic review and meta-analysis of various clinical and imaging risk factors. Br J Sports Med.