

A Subcalcaneal Bursitis developed after Excessive Walking : A Case Report

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Introduction

Plantar heel pain is a common clinical problem and has been attributed to numerous causes. Among them, subcalcaneal bursitis is very rare but it sometimes reported as a potentially plausible cause of plantar heel pain. This condition is likely to be misdiagnosed as plantar fasciitis, which may result in unnecessary treatment such as extracorporeal shock-wave therapy. The subcalcaneal bursa is located between the plantar fascia and the plantar fat pad, and mechanical overload is known to cause an inflammatory reaction on it. We present a case of left subcalcaneal bursitis occurred by excessive walking and diagnosed by ultrasonography and magnetic resonance imaging with contrast-enhancement (CE-MRI).

Case report

The patient (54-year-old woman) with left plantar heel pain and swelling for 3 months visited our outpatient clinic (Fig.1). She performed excessive walking exercise (3-4 times a week, 4-5 hours a day) for one month before symptom onset. The patient had no history of trauma. She complained of severe pain (numeric rating scale 10), which had been gradual in onset, worsening at night, aggravating by ambulation and physical training. On physical examination, there was prominent tenderness and diffuse swelling with warmth in the plantar heel. Routine blood test and plain foot radiography were all negative. Ultrasonography showed diffuse swelling and hypoechogenicity in the left plantar fat pad. Doppler image showed remarkable hypervascularity in the plantar fat pad. However, there was no significant abnormal findings in plantar fascia (Fig.2A,2C). To rule out other concomitant pathologic conditions, magnetic resonance imaging with contrast-enhancement (CE-MRI) was conducted. T2 weighted images showed a 3.0x2.5x0.7cm sized fluid-filled lesion with high signal intensity in the subcalcaneal bursa. Post-contrast scan of sagittal image demonstrated peripheral rim enhancement (Fig.3A,3B). Non-steroid anti-inflammatory medication and cryotherapy were started. Additionally, we restricted daily activity such as walking and applied silicon heel pad to avoid impact on heel pad area. After one month, patient's symptom was much improved (numeric rating scale 3). On palpation, tenderness and swelling were decreased.

Conclusion

The case we described here presents a rare case of subcalcaneal bursitis, caused by excessive walking and diagnosed by ultrasonography and MRI.



Fig 1. Swelling of left plantar heel was observed.

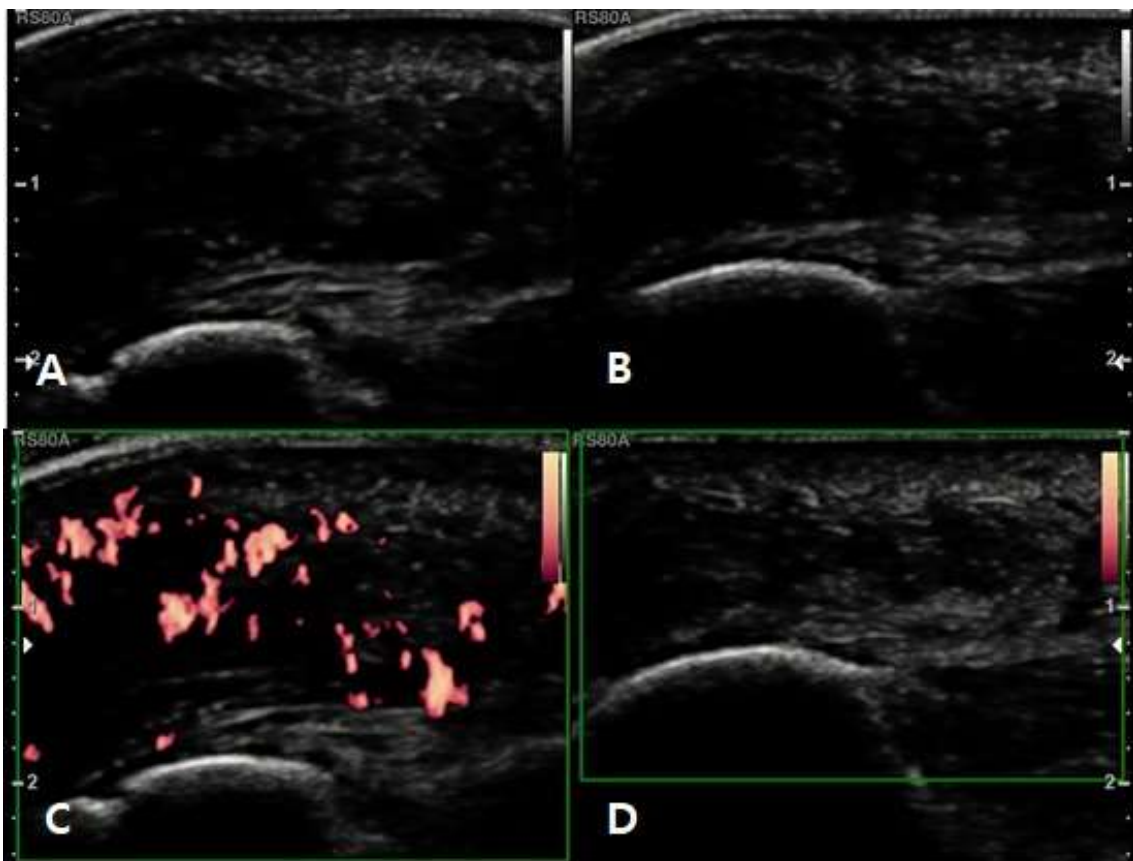


Fig 2. Left plantar heel showed a diffuse swelling and hypoechoogenicity between the plantar fascia and the plantar fat pad on ultrasonography (A) and demonstrated hypervascularity on doppler image (C). The right plantar heel had normal appearance (B,D).

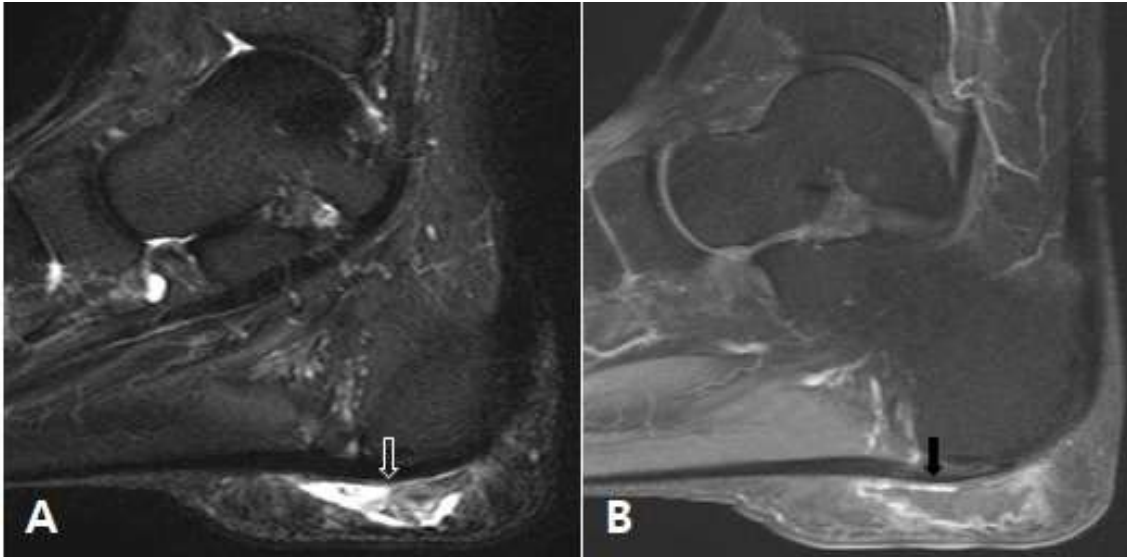


Fig 3. Magnetic resonance image with contrast-enhancement of left foot shows findings of subcalcaneal bursitis. (A) T2 weighted image of right foot demonstrated a 3.0x2.5x0.7cm sized fluid-filled lesion (open arrow) with high signal intensity on the subcalcaneal area. (B) On post-contrast scan of sagittal image, enhancement (black arrow) is observed in the same area.