Net Quiz

Popping papules over the feet

A 30-year-old male presented with asymptomatic papules over the heels for the past six years. He had history of playing amateur football. On examination, there were yellowish soft papules over the heels bilaterally, which were noticeable while standing and disappeared when he lifted his foot off the ground. [Figures 1, 2] He did not have similar lesions over the wrist. He had no findings suggestive of lax skin or hyper-mobile joints.

WHAT IS YOUR DIAGNOSIS?

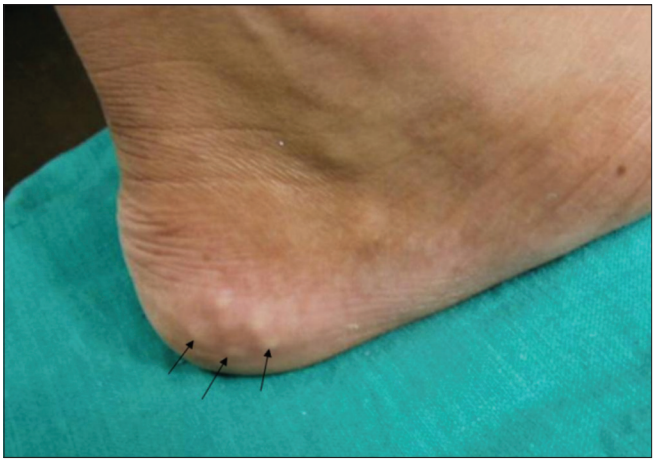

Figure 1: Papules noted on the heel on standing

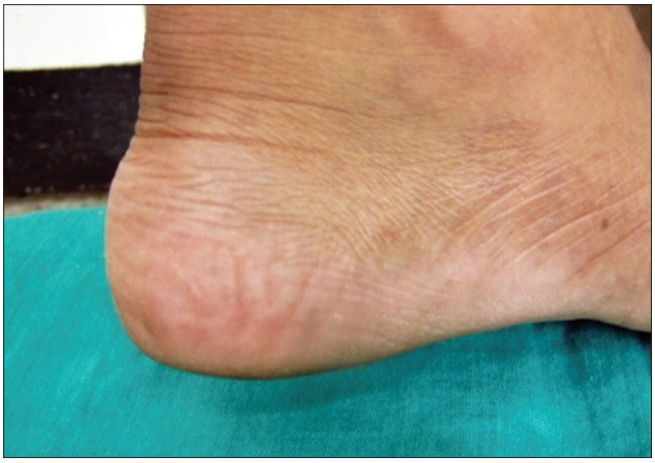

Figure 2: Papules disappear on lifting the foot

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Diagnosis: Piezogenic pedal papules

DISCUSSION

Piezogenic pedal papules (PPP) have been described as being both painful and painless. They have been classically described in marathon runners and as incidental findings caused by prolonged weight-bearing over the heels.[1] These occur due to fat herniations through the fascial planes. Following degeneration of the normal subcutaneous fibrous trabeculae, fused peripheral chambers or poorly compartmentalized chambers of fat are formed that may protrude through the overlying dermis as yellowish globules. Syndromic association with Ehlers-Danlos syndrome, Prader-Willi syndrome and isolated reports of association with rheumatic heart disease have been cited.[2,3] It has been debated whether such findings in children occur as a common entity due to immature dermal-subcutaneous integrity or is early onset PPP.[4]

Clinically, these are better appreciated with standing on direct pressure over the medial, posterior or lateral aspect of heels as multiple, discrete, skin-colored to yellowish, soft to firm papules. Ultrasound examination may reveal fat globules protruding through the dermis and discontinuation of hyperechoic signals at the site of protrusion. This may particularly be useful in patients with painful PPP and in athletes with concomitant hyperkeratosis obscuring clinical features.[5]

Pain in these papules have been postulated to be secondary to reduction in dermal thickness due to herniating fat or ischemic compromise affecting the fat and associated nerves. Patients with painless lesions may be reassured while those with painful lesions have been found to benefit from local electro-acupuncture therapy, compression therapy and intralesional steroid-anaesthetic combination injections.[6,7]

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