

Images/Instrument in Dermatology/Dermatosurgery

When pressure shows through – Painless papules on the feet

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A 25-year-old female medical student came to our outpatient department with complaints of multiple soft, painless, and raised lesions over the medial aspect of bilateral feet noted for the past four months. She gives a history suggestive of standing for prolonged hours during her clinical posting classes in college. She also responded in the affirmative when asked if the lesions subside after sitting or lying down for some time. Her body mass index was in the obese range (30). Cutaneous examination revealed the presence of multiple ill-defined approximately 1-2 mm skin-colored papules over the medial border of both feet [Figure 1a and b]. The papules were soft to the touch and yielded upon the application of vertical pressure over them. There were no surface skin changes. Based on the history and examination findings, a diagnosis of piezogenic pedal papules (PPPs) was made. Ultrasonography of the lesions demonstrated the presence of well-defined hypochoic areas in the dermal plane corresponding to the fat lobule surrounded by reticular dermis [Figure 2], which further corroborated with the diagnosis.^[1] The patient was explained the benign nature of the condition and was advised to avoid prolonged standing and weight reduction.

The PPPs, (“*piezo*” means pressure in Greek) represent a relatively uncommon entity where there are papular lesions over the foot, which appear after prolonged standing or activities involving weightbearing/repeated striking on the feet.^[2] Uncommonly, PPP has been known to present with wrist papules (not noted in our patient). At a tissue level, the papules represent herniation of the subcutaneous fat through the weakened dermis. The dermis, which is composed of collagen and elastin (alongside a myriad of extracellular matrix proteins), under normal conditions does well to restrict the subcutaneous fat underneath even when subjected to pressure from within. In some predisposed individuals, however, it may not be able to withstand the normal gravitational forces and manifest clinically as PPP. Although considered benign, PPPs are anecdotally associated with conditions such as Ehler–Danlos disease and Prader–Willi syndrome (presumably linked to weakened collagen in these conditions)^[2] or even with mitral valve prolapse.^[3] Diagnosis of

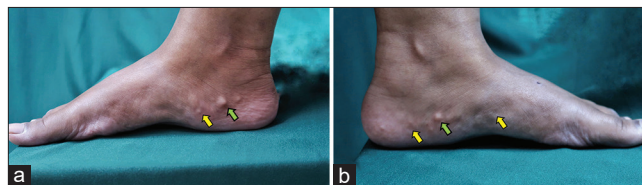


Figure 1: Multiple well-defined (green arrow) and ill-defined (yellow arrow) papules on the medial aspect of the (a) right and (b) left, respectively.

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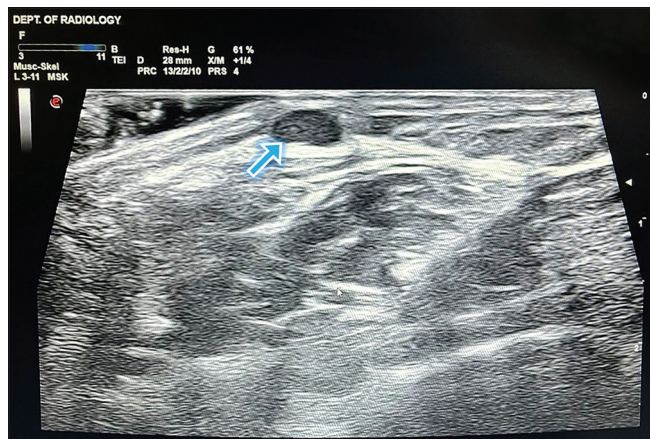


Figure 2: Hypoechoic lesion in the dermal plane (Blue arrow) corresponding to the fat lobule.

PPP is primarily clinical, and carrying out a biopsy for histopathological study is almost never recommended. However, an ultrasound imaging may be helpful in less obvious cases as a non-invasive tool. Behavioral modifications, weight reduction, and footwear optimization are some of the usually recommended treatment modalities.^[2]

Ethical approval

The Institutional Review Board approval is not required.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Nil.

Conflicts of interest

There are no conflicts of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

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