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## PIEZOGENIC PEDAL PAPULES

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### ABSTRACT

Piezogenic pedal papules are benign fat herniations that appear as soft bumps on the heels under pressure. While usually asymptomatic, they may cause discomfort, especially in individuals with prolonged standing or connective tissue disorders. We present a case of a 30-year-old woman with symptomatic papules managed successfully with conservative measures. Diagnosis is clinical, and treatment focuses on pressure reduction and supportive care. Greater awareness can help prevent misdiagnosis and unnecessary interventions.

### KEYWORDS

Piezogenic papules, subcutaneous fat herniation, pressure, heel lesions, conservative treatment

## **MAIN ARTICLE**

### **Introduction**

Piezogenic pedal papules are small, soft, skin-colored or yellowish bumps that appear on the feet, particularly on the heels, when pressure is applied. These benign lesions result from fat herniation through the dermis due to increased mechanical stress. While often asymptomatic, they can sometimes cause discomfort or pain, especially in individuals who spend long hours standing or have connective tissue disorders. This uncommon condition may go unrecognized by young dermatologists, and its management is mainly based on hygienic measures. Here we describe a case of piezogenic pedal papules.[1]

### **Case report**

A 30-year-old woman presented to the dermatology clinic with multiple small, soft, flesh-colored papules on both heels. She reported that these papules became more prominent upon standing and caused intermittent discomfort, especially after prolonged walking or standing. The patient denied any history of trauma, systemic illness, or similar lesions elsewhere on her body.

On physical examination, the papules were non-tender, symmetric, and protruded upon weight-bearing (figure 1), disappearing in decubitus (figure 2). There were no signs of inflammation, ulceration, or infection. The rest of the dermatological and musculoskeletal examinations were unremarkable. Given the characteristic appearance and presentation, a clinical diagnosis of piezogenic pedal papules was made. No further investigations, such as biopsy or imaging, were deemed necessary as the findings were consistent with benign fat herniation. Conservative management strategies were recommended, including reducing prolonged standing and high-impact activities, using well-cushioned footwear and orthotic insoles for pressure redistribution, compression therapy with supportive bandages. Topical NSAIDs were prescribed to reduce symptomatology. On follow-up after six months, the patient reported significant improvement in symptoms with conservative measures, and no new lesions were observed.

## **Discussion**

The term "piezogenic" is derived from the Greek words "piezo" (pressure) and "genic" (producing), indicating the role of pressure in the formation of these papules. Piezogenic papules were first described in medical literature in the mid-20th century, notably by Shelley and Rawnsley in 1968, who reported cases of painful fat herniations in the feet associated with weight-bearing activities. [2]

Piezogenic papules are common and often underreported. They are frequently observed in adults and children, with a higher prevalence in athletes, individuals with prolonged weight-bearing activities, and those with connective tissue disorders such as Ehlers-Danlos syndrome. [3]

The primary mechanism underlying piezogenic papules is the extrusion of adipose tissue through small defects in the fascia due to mechanical stress. Factors contributing to the development of these papules include increased mechanical pressure, weakening of connective tissue (e.g., Ehlers-Danlos syndrome), obesity and biomechanical factors such as flat feet or joint hypermobility.[4]

Diagnosis of piezogenic papules is primarily clinical: small, soft, skin-colored to yellowish papules that become prominent upon weight-bearing or pressure application and located in the heels, wrists, and lateral foot margins. These lesions typically disappear when the pressure is relieved. There are no significant inflammatory changes or ulceration.[5]

While asymptomatic piezogenic papules do not require treatment, symptomatic cases may benefit from various management strategies: footwear modifications, orthotic devices, weight management, activity modification, compression therapy.[6]

Nonsteroidal anti-inflammatory drugs or lidocaine patches may help with pain relief. Corticosteroid injections may be considered in rare cases. Surgical intervention (fasciotomy or fascial reinforcement; liposuction or excision) is rarely necessary but may be considered in refractory cases.[7]

## **Conclusion**

Piezogenic papules are common dermatological findings that arise from mechanical stress and fat herniation. While they are typically asymptomatic and benign, symptomatic cases require tailored management strategies, including lifestyle modifications, supportive footwear, and, in rare cases, medical or surgical interventions. Increased awareness and early diagnosis, mainly in predisposed patients such as individuals can aid in preventing unnecessary anxiety and ensuring appropriate management for affected individuals.

## **FIGURES :**



**Figure 1: Multiple flesh-colored papules on the lateral and medial surfaces of both heels, appearing when standing.**



**Figure 2: no visible lesions at rest.**

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