RESEARCH LETTER

Papular Clear Cell Hyperplasia of the Eccrine Duct with Histological Pitaya Sign: Not Just "Heat Rash"!

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Submitted Mar 28, 2025. Accepted after revision Apr 8, 2025
Published May 7, 2025. DOI: 10.2340/actadv.v105.43492. Acta Derm Venereol 2025; 105: adv43492.

To the Editor,

Papular clear cell hyperplasia of the eccrine duct (PCCH) is a very rare disease that has only been described in 4 patients to date.

A 48-year-old woman presented with severely itchy (VAS 8/10), 1- to 3-mm large, grouped, slightly erythematous papules on the extensor sides of both upper extremities that had been present for a year. Occasionally, similar papules were also found on the neck and décolleté. The skin changes had a rough, grater-like consistency without any recognizable connection to the hair follicles (**Fig. 1**) and increased in summer or after exposure to sunlight and heat, while they completely regressed in winter and in unheated environments. Routine laboratory tests, including HbA1c and fasting blood glucose, were normal. Apart from a mild form of atopic eczema in early childhood, there were no previous illnesses and no long-term medication. A skin biopsy of the right forearm showed clearly widened eccrine ducts consisting of clear cells with optically empty cytoplasm and small chromatophilic nuclei (**Fig. 2a, b**). The secretory portions themselves were not affected and there was no inflammatory infiltrate. Apart from the focal granular PAS positivity in the clear cytoplasm of the epithelial cells, further staining (alcian blue staining, Berlin blue, and naphthol-AS-D-chloroacetate esterase reaction) did not reveal any inflammatory infiltrate. Due to the very characteristic histological findings, the diagnosis of papular clear cell hyperplasia of the eccrine duct (PCCH) was made.

To date, only 4 patients with PCCH have been documented in the literature (**Table I**). The clinical and pathological findings of the case presented show notable parallels to the earlier case reports (1–4). The patients were all women aged between 37 and 77 years. The asymptomatic to pruritic papules occurred in the 3 younger patients on the upper extremities and trunk and predominantly after exposure to heat (1–3).

Histologically, clear cell syringoma (CCS) should be mentioned as a differential diagnosis. However, this is a benign tumour of the eccrine duct. A localized fibrosis is found in the centre of the cell clusters. Clear cell syringomas have been described in association with type 2 diabetes mellitus, although this association was not

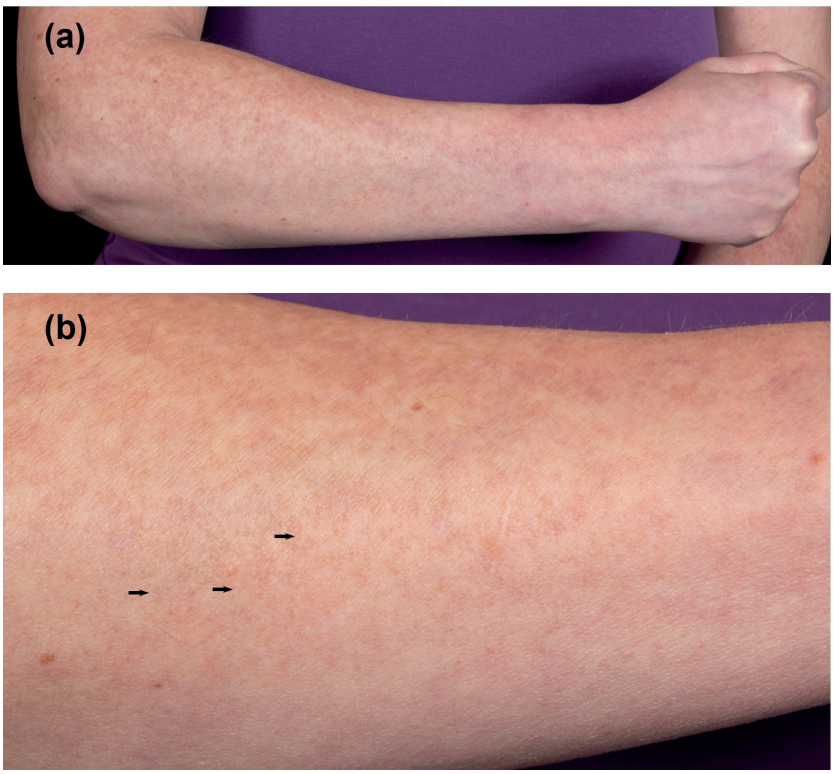

Fig. 1. Clinical manifestations. (a) General view of the miliary-sized, discrete erythematous papules on the extensor side of the right forearm with (b) corresponding detailed view.

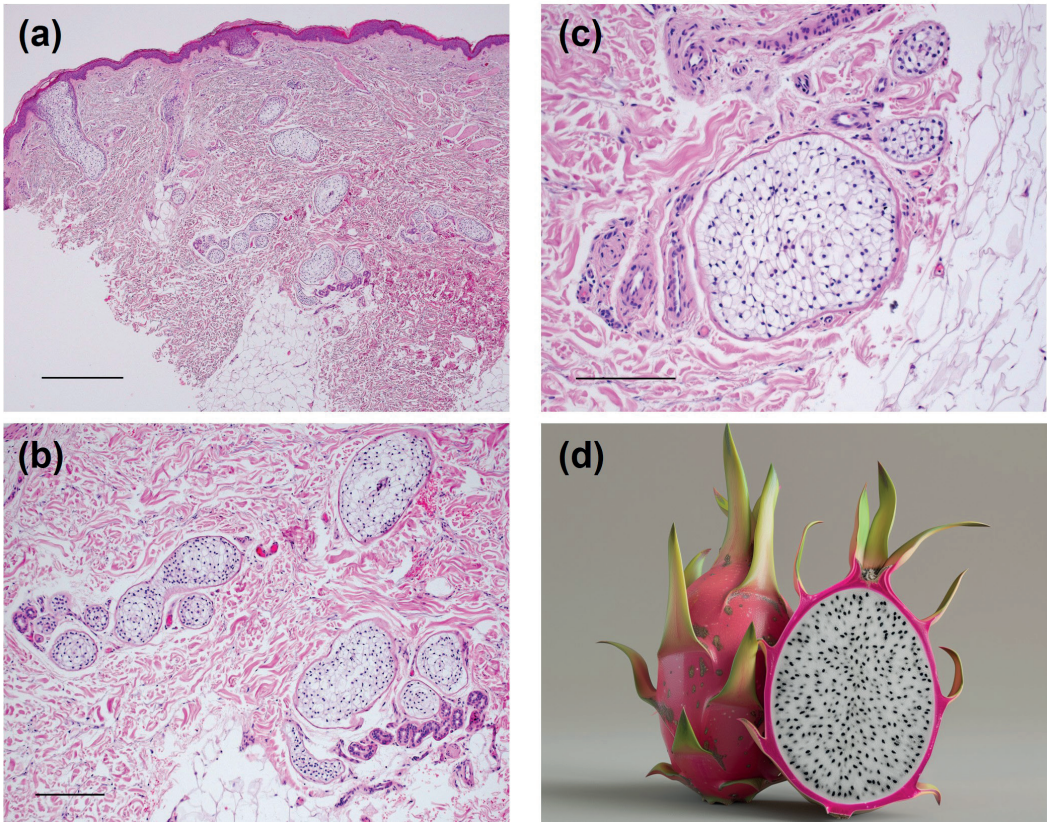

Fig. 2. Histological findings of the biopsy from the forearm. (a) Eccrine secretory ducts, spread by clear cells (haematoxylin-eosin stain, bar: 1000 µm); (b) detailed view of the unaffected secretory portion with dilated ducts without inflammatory infiltrate (haematoxylin-eosin stain, bar: 500 µm); (c) comparison of the histological image with a wide eccrine secretory duct (haematoxylin-eosin stain, 250 µm); and (d) a cross-section of a pitaya (dragon fruit).

Table I. Clinicopathological correlation of PCCH (adapted from Alonso-Riaño et al. [4])

Author	Gender	Age, years	Diabetes mellitus	Clinical characteristics
Izaki et al. (1)	Female	41	No	Skin-coloured, itchy papules on the upper limb
Signoretti et al. (2)	Female	46	No	Asymptomatic, skin-coloured papules on the torso
Tiju et al. (3)	Female	37	Yes	Asymptomatic, skin-coloured papules on the upper limb and torso
Alonso-Riaño et al. (4)	Female	77	Yes	Asymptomatic hyperkeratosis in the scar area on the capillitium
Presented case	Female	48	No	Skin-coloured, itchy papules on the upper limb and torso

confirmed in a further study (5, 6). Two of the total of 5 PCCH patients were diabetic (3, 4). Ultimately, the pathogenesis of PCCH remains unclear.

The very distinct histological image of the wide eccrine ducts, which appear to be inflated due to clear epithelia with small cell nuclei, is reminiscent of the cross-section of a pitaya (dragon fruit) (**Fig. 2c, d**). This visual pattern could therefore serve as a mnemonic for easier recognition of PCCH.

ACKNOWLEDGEMENTS

Ethics statement: The patient in this manuscript has given written informed consent to the publication of her case details.

Data availability statement: The data that support the findings of this study are available from the corresponding author upon reasonable request.

The authors have no conflicts of interest to declare.

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