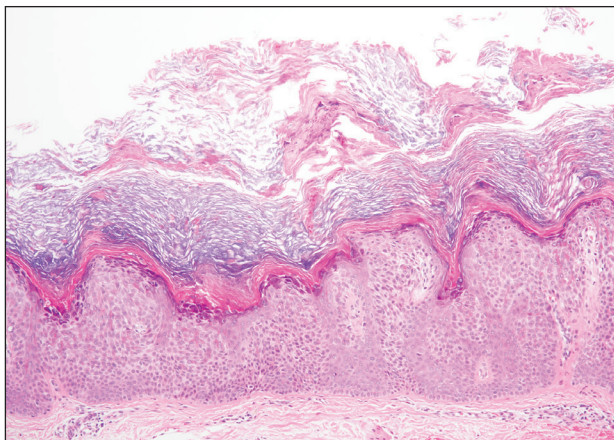


# Keratotic Papule on the Abdomen

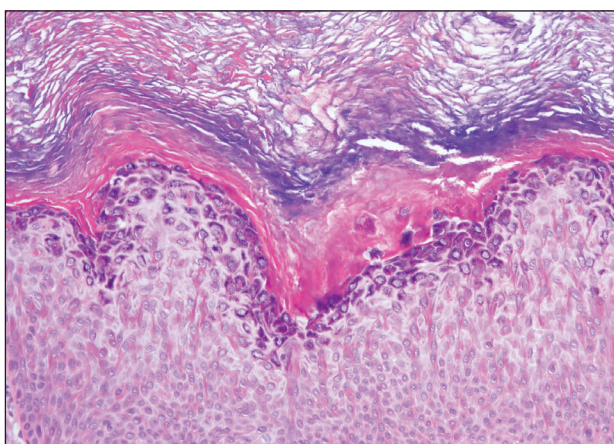
Albena Gesheva, BS; Michelle Pitch, MD; Lorraine L. Rosamilia, MD; Eric Hossler, MD

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H&E, original magnification  $\times 100$ .



H&E, original magnification  $\times 200$ .

A 59-year-old woman with a history of basal cell carcinoma, uterine and ovarian cancer, and verrucae presented with an asymptomatic 3-mm lesion on the left side of the lower abdomen. Physical examination revealed a waxy, tan-colored, solitary keratosis. A shave biopsy was performed. Histopathology showed hyperkeratosis, focal parakeratosis, papillomatosis, and marked hypergranulosis with pale gray cytoplasm of the spinous-layer keratinocytes.

## THE BEST DIAGNOSIS IS:

- Bowen disease (squamous cell carcinoma in situ)
- epidermolytic hyperkeratosis
- hypergranulotic dyscornification
- irritated seborrheic keratosis
- verruca plana

PLEASE TURN TO **PAGE 230** FOR THE DIAGNOSIS

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The authors report no conflict of interest.

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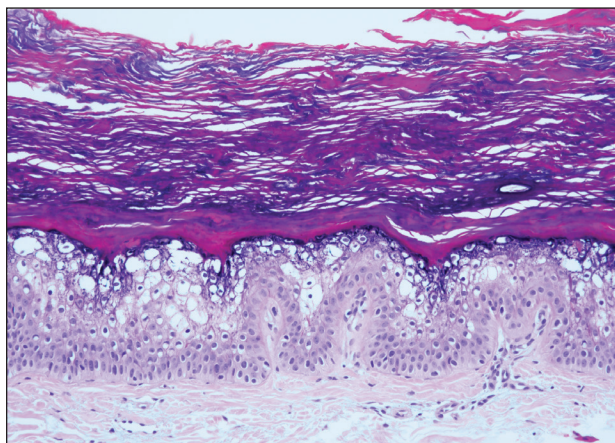
## THE DIAGNOSIS: Hypergranulotic Dyscornification

**H**ypergranulotic dyscornification (HD) is a rarely reported reaction pattern present in benign solitary keratoses with only few reports to date. It may be an underrecognized reaction pattern based on the paucity of reported cases as well as the histologic similarities to other entities. It has been hypothesized that this pattern reflects an underlying keratin mutation or disorder of keratinization.<sup>1</sup>

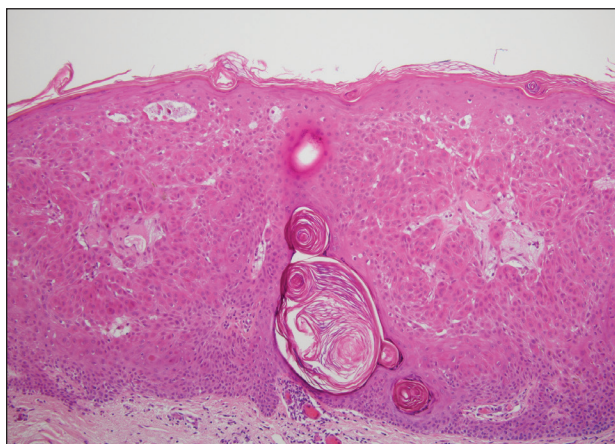
Clinically, HD most commonly presents as a waxy, tan-colored, solitary keratosis generally found on the lower limbs, trunk, or back in individuals aged 20 to 60 years.<sup>1,2</sup> Histopathology shows marked hyperkeratosis, papillomatosis, and clumped basophilic keratohyalin granules within the corneocytes with digitated epidermal

hyperplasia. There is abnormal cornification across the entire lesion with papillomatosis and marked hypergranulosis.<sup>3</sup> There often are homogeneous orthokeratotic mounds of large, dull, eosinophilic-staining anucleate keratinocytes that are sharply demarcated from the thickened granular layer.<sup>1,2</sup> Within the spinous, granular, and corneal layers, there is a pale, gray-staining, basophilic, cytoplasmic substance intercellularly.<sup>1</sup>

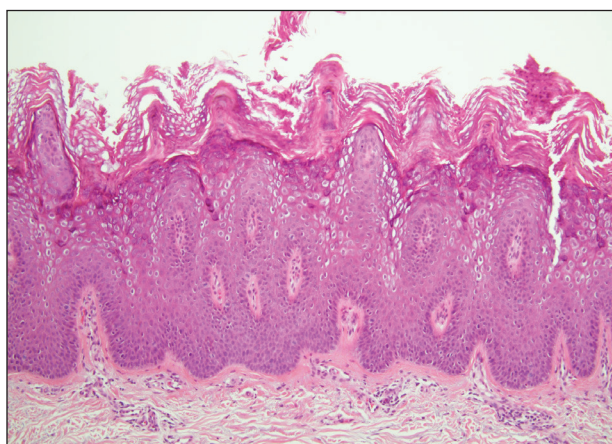
Histopathologically, HD may be mistaken for several other entities both benign and malignant.<sup>1</sup> Epidermolytic hyperkeratosis can be a genetic disorder, an incidental finding in a variety of skin conditions, or an isolated lesion.<sup>4</sup> The genetic syndrome, caused by mutation in keratins 1 or 10, clinically presents with hyperkeratosis, erosions, blisters, and thickening of the epidermis, often



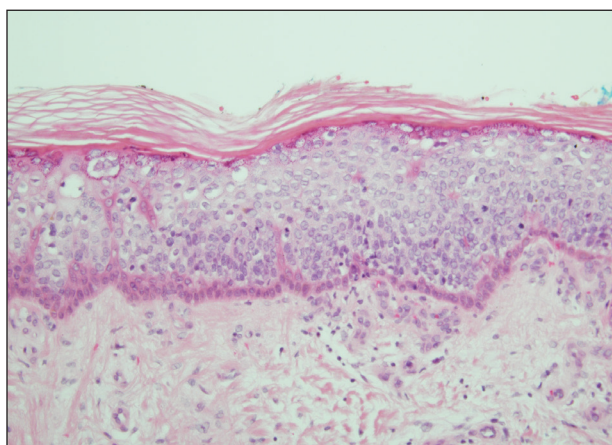
**FIGURE 1.** Epidermolytic hyperkeratosis. Irregularly acanthotic epithelium with epidermolysis, hypergranulosis, and hyperkeratosis (H&E, original magnification  $\times 200$ ).



**FIGURE 2.** Irritated seborrheic keratosis. Acanthosis with pseudohorn cysts, squamous eddies, and lack of cellular atypia (H&E, original magnification  $\times 100$ ).



**FIGURE 3.** Verruca plana. Acanthotic epithelium with koilocytes in the upper epidermis with hypergranulosis and hyperorthokeratosis (H&E, original magnification  $\times 100$ ).



**FIGURE 4.** Bowen disease. Full-thickness atypia of keratinocytes with prominence of the basal layer (H&E, original magnification  $\times 200$ ).



with a corrugated appearance. Epidermal nevi findings often are seen in conjunction with histologic changes of epidermolytic hyperkeratosis caused by mutation. Solitary lesions also can resemble seborrheic keratosis or verruca. In all examples of epidermolytic hyperkeratosis, the histopathologic findings are identical.<sup>4</sup> The granular layer is thickened, and coarse keratohyalin granules aggregate in the suprabasal cells.<sup>5</sup> There is acantholysis with perinuclear vacuolization in the spinous and granular layers with characteristic pale cytoplasmic areas devoid of keratin filaments (Figure 1). The basal layer may be hyperproliferative.<sup>5</sup>

Irritated seborrheic keratosis presents as an exophytic, waxy, dark, sharply demarcated plaque with a stuck-on appearance.<sup>6</sup> There is visible keratinization with comedo-like openings, fissures and ridges, and scale; it also can contain milialike cysts. Histopathologically there is papillomatosis with prominent rete ridges, often including keratin pseudohorn cysts and squamous eddies. Enlarged capillaries can be seen in the dermal papillae. There is normal cytology with benign sheets of basaloid cells (Figure 2).<sup>7</sup> Activating mutation in fibroblast growth factor receptor 3 leads to the growth and thickness of the epidermis that has been identified in these benign lesions.<sup>8</sup>

Verruca plana appears as a flesh-colored or reddish, warty, flat-topped papule that often forms clusters. Histopathologically it shows prominent hypergranulosis, thickened stratum spinosum, and vacuolized keratinocytes.<sup>9</sup> The nuclei demonstrate a characteristic cytopathic effect of the virion, blurring the nuclear chromatin due to viral particle accumulation, known as koilocytes (Figure 3). The cause is the double-stranded DNA human papillomavirus types 2, 3, and 10.<sup>10</sup>

Bowen disease is a form of squamous cell carcinoma in situ characterized by an enlarging, well-demarcated, erythematous plaque with an irregular border and crusting

or scaling. Histopathology reveals pleomorphic epidermal keratinization that becomes incorporated in the stratum corneum as parakeratotic nuclei. There is acanthosis, elongation of the rete ridges, and disorganized keratinocytes with atypia.<sup>11</sup> The granular and spinous layers show an atypical honeycomb pattern with atypical cellular morphology (Figure 4).<sup>12</sup> Bowen disease is a malignant lesion commonly found in older adults on sun-exposed skin that can evolve into invasive squamous cell carcinoma.

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