

# Giant Hidroacanthoma Simplex Mimicking Bowen's Disease

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## Key Words

Immunohistochemistry · Lumican staining · Seborrhic keratosis

## Abstract

Hidroacanthoma simplex is a benign tumor of the skin, macroscopically resembling seborrhic keratosis or Bowen's disease and histologically mimicking clonal-type seborrhic keratosis. We observed a plaque of 70 × 50 mm on the right flank part. From clinical appearance, we suspected Bowen's disease; however, based on immunohistochemical findings, we made a diagnosis of hidroacanthoma simplex.

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## Introduction

We observed a plaque of 70 × 50 mm on the right flank part. From clinical appearance, we suspected Bowen's disease; however, based on immunohistochemical findings, we made a diagnosis of hidroacanthoma simplex.

## Case Report

A 91-year-old woman presented with a 10-year history of a gradually growing cutaneous lesion on her right flank part. Her medical and family history was noncontributory. On clinical examination, the lesion was well-defined, irregularly shaped, and dark reddish-brown in color with an elevated plaque measuring 70 × 50 mm in size (fig. 1). She did not feel any pruritus or pain at the tumor site. A clinical diagnosis of Bowen's disease was suspected. A biopsy specimen revealed well-circumscribed intraepidermal nests of clear-looking basaloid cells within an acanthotic epidermis (fig. 2A). The tumor cells were small

and relatively monomorphic. Cellular and nuclear atypia was not prominent (fig. 2B). No clumping cells were observed. Immunohistochemical staining for lumican was performed using a purified rabbit anti-human lumican polyclonal antibody (Funakoshi, Tokyo, Japan). Diffuse lumican staining was noted in the lesion (fig. 2C). We diagnosed this tumor as hidroacanthoma simplex. Although a wide excision was recommended, our patient refused an operation.

## Discussion

The presence of well-defined nests made of typical or atypical epithelial cells situated within and surrounded by normal keratinocytes has been named Borst-Jadassohn phenomenon. This phenomenon is observed in various benign and malignant conditions, including hidroacanthoma simplex, clonal-type seborrheic keratosis, and Bowen's disease. Therefore, the histopathologic findings of clonal-type seborrheic keratosis seem similar to those of hidroacanthoma simplex, an intraepidermal variant of poroma that was first described by Coburn and Smith [1] in 1956. Furthermore, these 2 neoplasms are primarily composed of basaloid cells; therefore, it is difficult to differentially diagnose them exactly without presence of the ductal and cystic space such as in our case. Several reports have discussed the differential diagnosis between hidroacanthoma simplex and clonal-type seborrheic keratosis [2, 3]; however, the differential diagnoses discussed in these reports are also controversial [4]. Both hidroacanthoma simplex and clonal-type seborrheic keratosis showed very similar patterns of cytokeratin expression [2, 3]. Very recently, Takayama et al. [4] reported that lumican staining is a powerful tool for the differentiation of the two conditions. The authors clearly showed that diffuse lumican staining is observed in the lesions of hidroacanthoma simplex, while only sporadic lumican staining is noted in the lesions of clonal-type seborrheic keratosis. Because of the clinical appearance of the plaque in our case, we strongly suspected Bowen's disease. However, as mitoses and clumping cells, which are histopathological characteristics of Bowen's disease, were not observed, the results of lumican staining led to a diagnosis of hidroacanthoma simplex.

Hidroacanthoma simplex occurs most frequently on the lower extremities and the trunk. It is more common in older adults and without gender predilection. The gross appearance of hidroacanthoma simplex is characterized by flat or slightly elevated, irregularly verrucous, brown plaques. Particularly because of the large size of the lesion in our case, we suspected Bowen's disease at first. To our knowledge, the biggest tumor had a size of 80 × 90 mm [5], but there are no reports with detailed delineation in the English literature. There is one report of a tumor measuring 70 × 48 mm in size [6]. In our case, the tumor was 70 × 50 mm in size, which is also quite large.

## Statement of Ethics

We have no ethical conflicts to disclose.

## Disclosure Statement

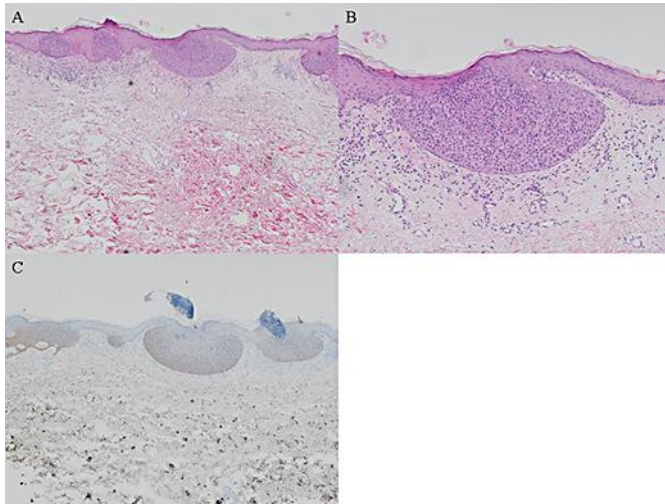
We have no conflict of interest in relation to the publication of this paper.

## References

- 1 Coburn JG, Smith JL: Hidroacanthoma simplex; an assessment of a selected group of intrapeidermal basal cell epitheliomata and of their malignant homologues. *Br J Dermatol* 1956;68:400–418.
- 2 Liu HN, Chang YT, Chen CC: Differentiation of hidroacanthoma simplex from clonal seborrheic keratosis – an immunohistochemical study. *Am J Dermatopathol* 2004;26:188–193.
- 3 Lora V, Chouvet B, Kanitakis J: The 'intraepidermal epithelioma' revisited: immunohistochemical study of the Borst-Jadassohn phenomenon. *Am J Dermatopathol* 2011;33:492–497.
- 4 Takayama R, Ansai S, Ishiwata T, Yamamoto T, Matsuda Y, Naito Z, Kawana S: Expression of lumican in hidroacanthoma simplex and clonal-type seborrheic keratosis as a potent differential diagnostic marker. *Am J Dermatopathol* 2014;36:655–660.
- 5 Anzai S, Arakawa S, Fujiwara S, Yokoyama S: Hidroacanthoma simplex: a case report and analysis of 70 Japanese cases. *Dermatology* 2005;210:363–365.
- 6 Lu X, Wu M, Chen J, Wu J, Gu Y, Zhao L: A case of hidroacanthoma simplex. *Indian J Dermatol* 2013;58:245.



**Fig. 1.** A 70 × 50 mm, well-circumscribed, dark reddish-brown, elevated plaque on the right flank part.



**Fig. 2.** **A** Low-power view showing well-circumscribed intraepidermal nests within an acanthotic epidermis (HE stain. Original magnification  $\times 40$ ). **B** High-power view showing small and relatively monomorphic tumor cells with no atypia (HE.  $\times 100$ ). **C** Diffuse lumican staining was noted ( $\times 40$ ).