

Correspondence

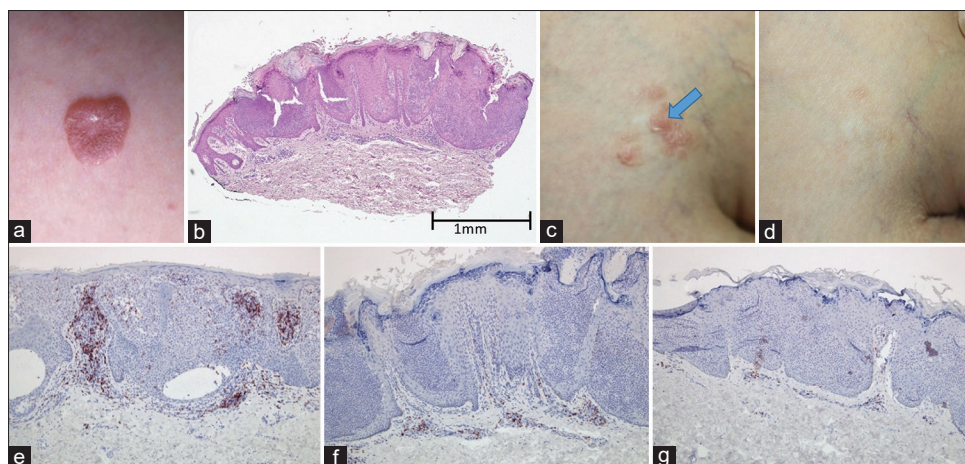
## Spontaneous regression of hidroacanthoma simplex after skin biopsy

Dear Editor,

A 50-year-old Japanese woman noticed a nodule on her right knee in 2000. Because it gradually grew, she visited our hospital in 2001. Physical examination showed a reddish, well-demarcated elevated plaque with a diameter of 2 cm on the inner side of her right knee [Figure 1a]. Histological findings of a 3 mm dermal punch biopsy specimen from the plaque revealed hyperkeratosis, acanthosis, well-circumscribed nests of oval basaloid cells within the epidermis with some ductal structures, and slight superficial perivascular infiltration of mononuclear cells [Figure 1b]. We diagnosed her with hidroacanthoma simplex and partially cauterized the base of the tumor with a CO<sub>2</sub> laser. She came again due to a recurrence of the tumor in 2007. Physical examination showed a similar plaque at the same site. Histological findings revealed the same observations. Although we decided to treat the tumor with a CO<sub>2</sub> laser again, she did not visit our hospital for the treatment of the other half of the tumor. She came again due to an increase of the tumor at the same site in 2015. Physical examination showed multiple reddish papules with a diameter of 1 cm [Figure 1c]. Dermoscopic findings showed whitish reticular structure, round red dots, and loop telangiectasias.

Histological findings of a 3 mm dermal punch biopsy specimen revealed similar findings with more mononuclear cell infiltration within the epidermis and around the vessels in the superficial dermis. Immunohistochemical staining showed that the Ki67 positivity rate was 56%, and p53 was positive in the tumor. We diagnosed her with hidroacanthoma simplex again. The tumor spontaneously regressed 16 months after biopsy without any other treatment [Figure 1d], and no recurrence has been observed for 4 years.

Hidroacanthoma simplex was first described in 1956 as a tumor that originated from the outer cells of the acrosyringium in the intraepidermal epithelioma of Borst Jadassohn.<sup>[1]</sup> To our knowledge, this is the first case of hidroacanthoma simplex showing spontaneous regression after biopsy. There have been only several types of cutaneous tumors, including benign tumors, such as pseudolymphoma,<sup>[2]</sup> showing spontaneous regression after biopsy.<sup>[3]</sup> Moreover, the mechanism of subcutaneous in-transit malignant melanoma showing spontaneous regression after CO<sub>2</sub> laser<sup>[4]</sup> has not been clearly understood thus far. We performed immunohistochemical staining of CD3, CD4, and CD8 for three biopsy samples in this case. Numerous CD8<sup>+</sup> cells were observed within the tumor as



**Figure 1:** (a) Initial clinical presentation in 2001. (b) Histopathological examination of the plaque revealed well-circumscribed nests of oval basaloid cells within the epidermis with some ductal structures. Hematoxylin-and-eosin staining: original magnification  $\times 40$ . (c) Clinical presentation in 2015. (d) Clinical presentation at 16 months after biopsy. (e-g) Immunohistochemical staining with CD8 showed that more CD8<sup>+</sup> cells around the vessels and within the tumor were observed in 2015 than 2001 and 2007. Original magnification,  $\times 40$ : tumor in (e) 2015, (f) 2001, and (g) 2007.

well as around the vessels in 2015. More CD8<sup>+</sup> cells around the vessels and within the tumor were observed in 2015 than 2001 and 2007 [Figure 1e-g]. We speculated that the treatment with a CO<sub>2</sub> laser might have provoked an immune reaction for the tumor and the biopsy procedure enhanced the reaction, which caused spontaneous regression. Merkel cell carcinoma (MCC) is well known,<sup>[5]</sup> and apoptosis is said to be involved in the regression.<sup>[6]</sup> Merkel cell polyomavirus (MCPyV) was detected in three of four cases of MCC showing spontaneous regression after biopsy.<sup>[5,7]</sup> Thus, we evaluated the virus in this case. However, MCPyV was not detected with polymerase chain reaction using an extract of the paraffin-embedded sample of this case.<sup>[7]</sup> In this case, MCPyV was not involved in the spontaneous regression after biopsy.

### Acknowledgments

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### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal the identity, but anonymity cannot be guaranteed.

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Nil.

### Conflicts of interest

There are no conflicts of interest.

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