

## Apocrine Hidrocystoma on the Finger

Yukikazu Numata<sup>1</sup>, Ryuhei Okuyama<sup>1</sup>, Shu Sasai<sup>2</sup> and Setsuya Aiba<sup>1</sup>

Department of Dermatology, <sup>1</sup>Tohoku University Graduate School of Medicine, 1-1 Seiryomachi, Aoba-ku, Sendai 980-8574, and <sup>2</sup>South Miyagi Medical Center, Ogawara-machi, Miyagi 989-1253, Japan. E-mail: ryuhei@gonryo.med.tohoku.ac.jp  
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Sir,

Apocrine hidrocystomas usually present as superficial, solitary, cutaneous nodules on the face. However, it is extremely rare for apocrine hidrocystomas to develop on a finger (1, 2). According to their histological characteristics and presumed histogenetic derivation, two types of hidrocystoma have been distinguished, but the precise classification of this tumour have not been clarified. We describe here a patient with an apocrine hidrocystoma on a finger, and discuss the histopathological, histochemical and immunohistochemical features.

### CASE REPORT

A 69-year-old Japanese man developed a tender nodule on his middle finger over the previous 2 years, and the lesion gradually became larger. He presented with a solitary, brown-coloured, dome-shaped nodule, 15 mm in diameter, on the dorsum of the middle finger (Fig. 1). Puncture with a sterile needle yielded a brownish, clear, watery fluid, but the cyst was again filled with fluid a few weeks later. We performed a spindle-shaped resection, and no recurrence occurred 5 years after the surgery.

Histologically, the dermis contained a unilocular cyst into which papillary folds projected, and there was slightly eosinophilic material together with extravasated red blood cells (Fig. 2A). The cyst wall was composed of one to several layers of cuboidal cells, which partially showed columnar configura-



Fig. 1. A solitary, brown-coloured, translucent, dome-shaped nodule was observed on the dorsum of the middle finger. The lesion was smooth and demarcated from the surrounding normal skin.

tions or decapitation activities into the luminal space (Fig. 2B). Myoepithelial cells were also seen in the basal side of the wall (Fig. 2B, arrows). Serial sections revealed that a slightly dilated duct, showing unequivocal decapitation secretion, had become gradually larger with the result that it had become fused to the cyst. Immunohistochemically, gross cystic disease fluid protein (GCDFP)-15 was strongly positive, especially in the upper portion of the luminal cells. On the other hand, there was no S-100 staining in most of the cells of the cystic wall. Taken together, we concluded that this was an apocrine hidrocystoma on the finger.

### DISCUSSION

Apocrine hidrocystomas were first described in 1964 (3). They are thought to be benign skin neoplasms derived from the secretory portion of the apocrine gland, and usually present as a superficial, solitary, various-coloured (skin-coloured, light-brown, red-brown, bluish or black) nodule on the face (4). To our knowledge, there have been only three reported cases of hidrocystoma on a finger (1, 2). These cases were differentiated into apocrine or eccrine hidrocystoma by the presence of secretory cells showing decapitation secretion (1) and by the histological characteristics together with immunohistochemical findings (2). While S-100 positive cells were found in the secretory portion of eccrine glands (5), positive staining for GCDFP-15 was regarded as a marker of apocrine epithelium (6). Therefore, the staining pattern of S-100 and GCDFP-15 in our case was compatible with apocrine nature. Interestingly, we could demonstrate for the first time that the duct with decapitation secretion near the cyst,

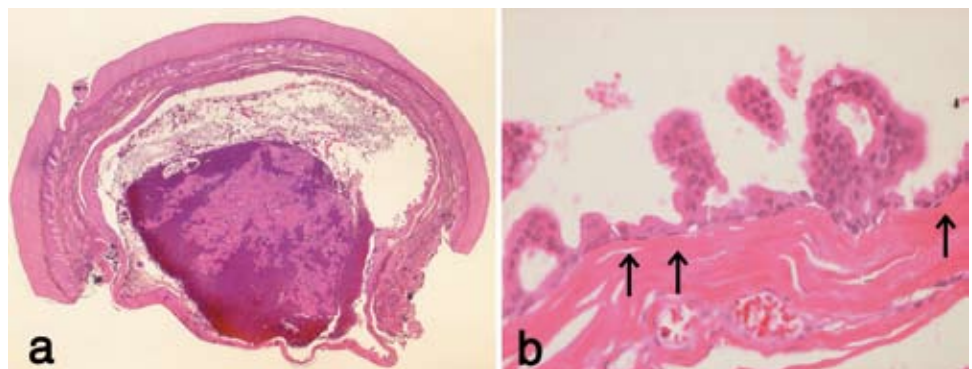


Fig. 2. Histological study. (A) Low-power view shows a unilocular cyst in the dermis. Homogenous, slightly eosinophilic material mixed with extravasated red blood cells was found in the cavity (haematoxylin-eosin stain  $\times 10$ ). (b) Higher-power view shows columnar or papillomatous configurations of the cystic wall, with decapitation activities into the luminal space. Arrows indicate myoepithelial cells (haematoxylin-eosin stain  $\times 400$ ).

which has been pointed out previously (7), was fused to the cyst wall. These findings favour a diagnosis of apocrine hidrocystoma.

The precise reason for the unique site in the present case is unclear. The anlagen of apocrine glands are noted widely in the embryo skin, and apocrine glands are usually limited to the head, axilla, groin, and peri-areolar area in adults. However, apocrine glands sometimes do not disappear completely from other sites (8). The apocrine hidrocystoma in our case may have arisen from apocrine glands remaining in the finger.

#### REFERENCES

1. De Fontaine S, Van Geertruyden J, Vandeweyer E. Apocrine hidrocystoma of the finger. *J Hand Surg* 1998; 23: 281–282.
2. Kamiya H, Kitajima Y, Ban M, Ohara K. Two cases of apocrine hidrocystoma: differential diagnosis from poroid hidradenoma. *Rinsho Derma (Tokyo)* 2000; 42: 509–513.
3. Mehregan AH. Apocrine cystadenoma: a clinicopathologic study with special reference to the pigmented variety. *Arch Dermatol* 1964; 90: 274–279.
4. Fukuda M, Kato H, Hamada T. Apocrine hidrocystoma: a report of five cases and review of the Japanese literature. *J Dermatol* 1989; 16: 315–320.
5. Tokura Y, Takigawa M, Inoue K, Yamada M. S-100 protein-positive cells in hidrocystomas. *J Cutan Pathol* 1986; 13: 102–110.
6. Mazoujian G, Margolis R. Immunohistochemistry of gross cystic disease fluid protein (GCDFP-15) in 65 benign sweat gland tumors of the skin. *Am J Dermatopathol* 1988; 10: 28–35.
7. Yus ES, Simon RS. Eccrine, apocrine, or sebaceous duct cyst? *J Cutan Pathol* 1999; 26: 444–447.
8. Benisch B, Peison B. Apocrine hidrocystoma of the shoulder. *Arch Dermatol* 1977; 113: 71–72.