A Case of a Follicular Hybrid Cyst (Epidermal Cyst and Pilomatricoma)

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A follicular hybrid cyst is an uncommon benign cyst which is combined with two or more different parts of a pilosebaceous unit. We report a case of a follicular hybrid cyst on the scalp of a 62-year-old woman. She showed no sign of Gardner's syndrome. Histopathologic findings showed one part of the cyst had features of an epidermal cyst and the other part had features of a pilomatricoma. A diagnosis of follicular hybrid cyst combined with epidermal cyst and pilomatricoma was made. This condition is rarely reported in dermatologic literature. (Ann Dermatol 17(1) 45~47, 2005)

Key Words: Follicular hybrid cyst, Epidermal cyst, Pilomatricoma

INTRODUCTION

Different types of cutaneous cyst can originate from each of the three components of hair follicles (the lower portion, isthmus, and infundibulum). Epidermal cysts are related to the follicular infundibulum, and pilomatricoma is a tumor with differentiation toward hair matrix cells[1].

A follicular hybrid cyst is the term used for any cyst which involves more than two components of the pilosebaceous unit[2]. We report a case of a follicular hybrid cyst with features of an epidermal cyst and pilomatricoma on the scalp.

CASE REPORT

A 62-year-old Korean woman presented with a 1-month history of an ulcerated tumor on the scalp. The tumor had developed as a small bean-sized nodule 50 years ago, and had gradually enlarged in recent years. One month ago, it had ruptured due to trauma. She had no notable past or family history. There was no sign of Gardner's syndrome. Physical examination of the scalp revealed a 2 cm-sized, elevated ulcerative, hemorrhagic tumor which had a centrally-exposed calcified yellowish material (Fig. 1). The tumor was totally excised for diagnosis and treatment.

Histopathologically, the tumor in the dermis showed cup-shaped invagination combined with

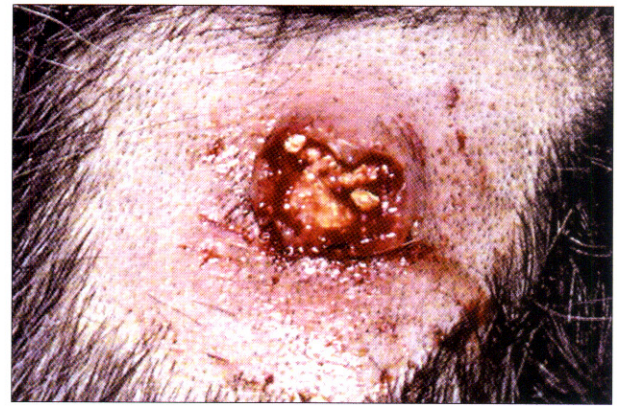

Fig. 1. A 2 cm-sized elevated and ulcerated hemorrhagic tumor, with exposed calcified yellowish material on the scalp.

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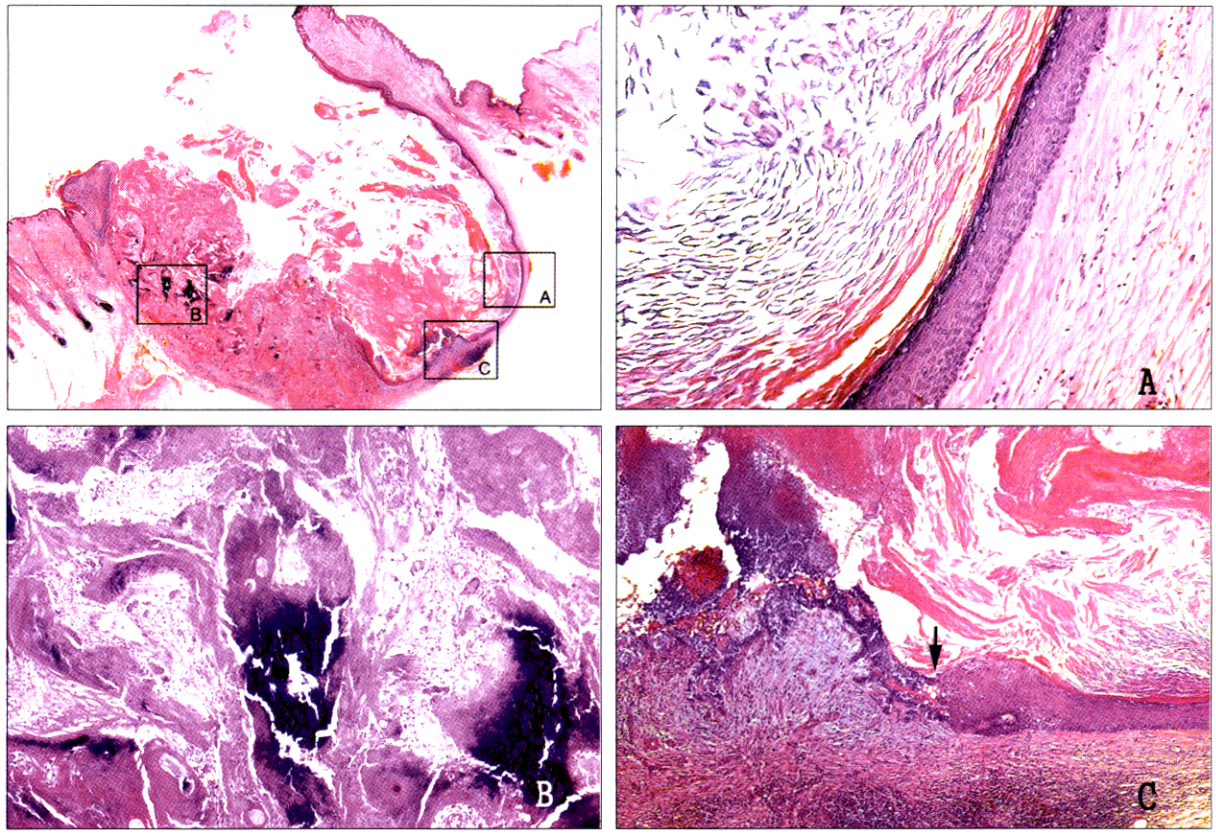

Fig. 2. The tumor in the dermis showed cup-shaped cystic invagination. (A) The cystic wall was lined by stratified squamous epithelium with a granular layer. (B) Foci of calcification were seen within areas of basophilic cells and shadow cells. (C) The sharp transition (arrow) was observed at the base of tumor (H&E, ×40).

cystic and solid lesions (Fig. 2). The wall of cystic lesion was composed of several layers of squamous and granular cells. The cyst was filled with horny material arranged in laminated layers (Fig. 2A). These findings were consistent with those of an epidermal cyst. The solid lesion was composed of basaloid cells, transitional cells, shadow cells, and focal calcium deposition, which indicated pilomatricoma (Fig. 2B). At the base of the cyst, a sharp zone of transition from epidermal cyst to pilomatricoma was observed (Fig. 2C).

DISCUSSION

In 1983, Brownstein[3] described a combined infundibular and trichilemmal cyst, and termed it a 'hybrid cyst'. Later, Requena and Sánchez[2] expanded the concept of hybrid cyst to the cystic structure which included two or more components of pilosebaceous units, and named these cysts 'follicular hybrid cysts'. Follicular hybrid cysts can consist of a different combination of cysts including: an infundibular and trichilemmal cyst, an infundibular cyst and pilomatricoma, a trichilemmal cyst and pilomatricoma, an eruptive vellus hair cyst and steatocystoma, or an eruptive vellus hair cyst and trichilemmal cyst[2].

Takeda et al.[4] reviewed 15 cases of hybrid cysts in Japan. The scalp and face were most often involved, and the most frequent histological type was the combination of the infundibular and trichilemmal cyst (10 cases). Miyake et al.[5] reported a case of a follicular hybrid cyst (trichilemmal cyst and pilomatricoma) arising within a nevus sebaceus. Only three cases of follicular hybrid cyst have been reported in Korean dermatologic literature[6-8]. Two cases were similar to our case, and the third case involved the combination of an eruptive vellus hair cyst and steatocystoma.

A true hybrid cyst of an epidermal cyst and pilomatricoma, is a single cyst with both types of keratinization in its wall. The sharp zone of transition will occur in the same cyst, part of it being an epidermal cyst and the other part being a pilomatricoma[2]. There could be confusion identifying a follicular hybrid cyst if pilomatricoma occurs next to, or is perforating epidermis.

Pilomatricoma-like changes in the epidermal cysts of Gardner's syndrome have been reported by Cooper and Fechner[9]. In these cysts, the most remarkable finding was the presence of columns of squamous cells that projected from the epithelial lining of the cysts for variable distances in the lumina. The cells of column were indistinguishable from the shadow cells of pilomaticoma, and the cells at the base of the column were indistinguishable from the basophilic cells of pilomatricoma. They suggested that these finding could be a useful diagnostic marker of Gardner's syndrome. Whereas, Benharroch and Sacks[10] reported 4 cases of pilomatricoma associated with epidermal cysts, in which none of the cases showed the feature of Gardner's syndrome.

Follicular hybrid cysts are an interesting pathologic phenomenon, and need to be elucidated for their pathogenesis.

REFERENCE

1. Forbis R, Helwig EB: Pilomatrixoma (calcifying epithelioma). Arch Dermatol 1961;83:606-618.
2. Requena L, Sánchez YE: Follicular hybrid cysts. An expanded spectrum. Am J Dermatopathol 1991; 13:228-233.
3. Brownstein MH: Hybrid cyst: a combined epidermoid and trichilemmal cyst. J Am Acad Dermatol 1983;9:872-875.
4. Takeda H, Miura A, Katagata Y, Mitsuhashi Y, Kondo S: Hybrid cyst: case reports and review of 15 cases in Japan. J Eur Acad Dermatol Venereol 2003;17:83-86.
5. Miyake H, Hara H, Shimojima H, Suzuki H: Follicular hybrid cyst (trichilemmal cyst and pilomaticoma) arising within a nevus sebaceus. Am J Dermatopathol 2004;26:390-393.
6. Lee MG, Lee WS, Chun SI: A case of epidermal cyst with pilomatricoma-like change. Kor J Dermatol 1988;26:98-101.
7. Kim SW, Moon SE, Kim JA: A case of hybrid cyst showing composite feature of an eruptive vellus hair cyst and steatocystoma multiplex. Kor J Dermatol 1998;36:116-119.
8. Cho S, Whang KK, Hahm JH: Pilomatricoma combined with epidermoid cyst. Ann Dermatol 2000;12:155-159.
9. Cooper PH, Fechner RE: Pilomatricoma-like changes in the epidermal cysts of Gardner's syndrome. J Am Acad Dermatol 1983;8:639-644.
10. Benharroch D, Sacks MI: Pilomatricoma associated with epidermoid cyst. J Cutan Pathol 1989;16:40-43.