http://dx.doi.org/10.5021/ad.2015.27.2.237

A Case of Keratoacanthoma Associated with Basal Cell Carcinoma

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Dear Editor:

Keratoacanthoma is a relatively common epithelial tumor that originates in the pilosebaceous glands and bears a pathological resemblance to squamous cell carcinoma (SCC). Several cases of keratoacanthoma in association with other lesions such as SCC, nevus comedonicus, verrucous cell carcinoma, and cutaneous horn have been reported. Herein, we report a rare case of keratoacanthoma and basal cell carcinoma (BCC) present in a single tumor nest.

A 46-year-old male patient presented with a rapidly growing lesion on his left cheek, which had developed 6 weeks previously. He had no relevant medical or family history. Physical examination revealed a 6-mm-sized, protruding verrucous papule on the cheek (Fig. 1A). The edges were raised and the central portion was crateriform with a keratin plug. A 4-mm punch biopsy was performed with a clinical impression of verruca vulgaris or keratoacanthoma. Biopsy specimen results were consistent with keratoacanthoma (Fig. 1B), without features of solar elastosis or basal layer dysplasia. Complete removal of the keratoacanthoma was performed by surgical excision. The excision specimens were composed of two sections. One section exhibited remnant keratoacanthoma, whereas the other section was consistent with BCC (Fig. 2). The BCC contained palisading basaloid cells and a cleft between the tu-

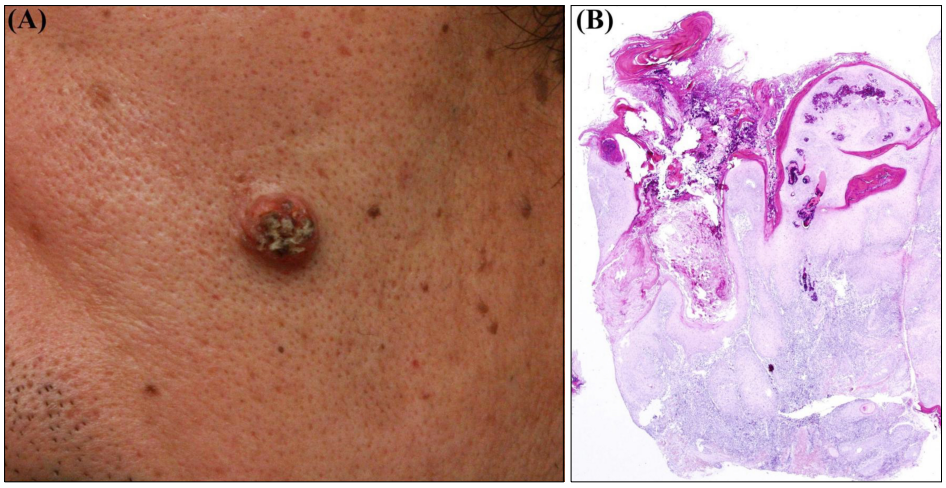

Fig. 1. (A) A 6-mm-sized, protruding, verrucous papule on the left cheek. (B) Central keratotic plug surrounded by epithelial proliferation (H&E, ×20).

Received March 27, 2014, Revised April 28, 2014, Accepted for publication June 23, 2014

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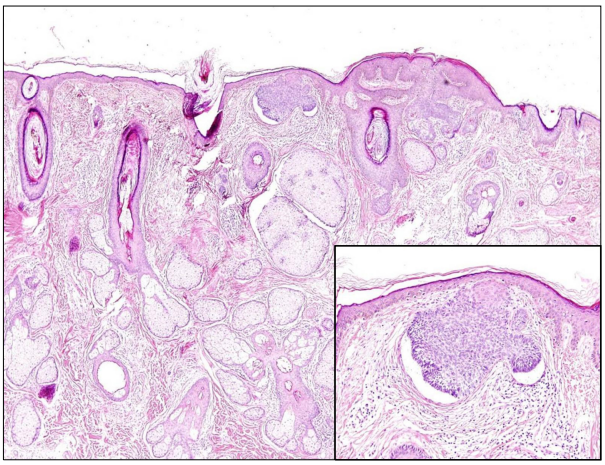

Fig. 2. Single tumor nest with abundant sebaceous glands and hair follicles (H&E, ×100). Basal cell carcinoma showing palisading basaloid cells with a cleft between the tumor nest and stroma (inset, ×200).

mor nest and stroma.

A cutaneous collision tumor is the coexistence of more than one neoplasm in a single cutaneous specimen. In most instances, collision tumors are composed of two different tumor portions. To the best of our knowledge, there have been three previously reported cases of keratoacanthoma associated with BCC. In two reports, the keratoacanthoma and BCC lesions were distinct and separate in a single tumor nest[1,2], which may be similar to our case. In another report, a histologic transition between the two lesions was observed[3]. The lesions reported in these three cases were located on the face, specifically on the eyelid, nose, and cheek.

Given the small number of cases reported in the literature, the pathogenesis of collision tumors is controversial. One theory suggests that cumulative damages to the skin may induce the development of different neoplasms adjacent to each other[4]. Considering the risk factors for keratoacanthoma and BCC, we believe that in our case, the collision developed incidentally, due to chronic ultraviolet light exposure. The collision tumor in our case and those of the three previous reported cases[1-3] were all located on the face. This also supports the above theory.

As in our case, we believe that most cutaneous collision tumors are coincidental. However, there are other theories about collision tumor pathogenesis. One suggests that collision tumors may develop due to an interaction between the different tumor portions[4]. Another theory suggests that the different neoplasms of collision tumors may arise from multipotent stem cells[5].

In conclusion, we report a rare case of collision tumor composed of keratoacanthoma and BCC, although direct contact between the two lesions was not observed. Further studies will be needed to elucidate the pathogenesis of collision tumors.

REFERENCES

1. Einaugler RB, Henkind P, De Oliveira LF, Bart RS. Keratoacanthoma with basal cell carcinoma. Am J Ophthalmol 1968;65:922-925.
2. Butcher RB 2nd. Malignant potential of keratoacanthoma. Laryngoscope 1979;89:1092-1098.
3. Bryant J. Basal cell carcinoma associated with keratoacanthoma. J Dermatol Surg Oncol 1985;11:1230-1231.
4. Ahlgrimm-Siess V, Hofmann-Wellenhof R, Zalaudek I, Cerroni L, Kerl H. Collision of malignant melanoma (lentigo maligna type) with squamous cell carcinoma in solar-damaged skin of the face. Dermatol Surg 2007;33:122-124.
5. Kim J, Roh HJ, Chung KY, Roh MR. Collision of two rare adnexal tumors with folliculosebaceous differentiation. J Am Acad Dermatol 2011;64:e84-e85.