Letter to the Editor

Squamous papilloma and squamous cell carcinoma arising from epidermal cyst: report of 4 cases

To the Editor:

Epidermal cyst (EC) of the skin is a very common condition. It is believed to originate from displaced epidermis in the dermis due to injury and other causes. It has been infrequently reported that squamous cell carcinoma (SCC) or squamous papilloma (SP) arises from EC [1–6]; only circa 20 such cases have been reported in the English literature. In particular, only 1 case of SP arising from an EC has been reported in the literature [5]. The author previously experienced an SCC arising from an EC [4]. The author found 3 cases of SCC originating from EC and one case of SP developed within an EC in the author’s computer data base in the last 15 years. Herein reported are these 4 cases.

The cases consisted of 3 cases of SCC and 1 case of SP arising from 4 ECs. The age and gender were 76 years female, 65 years male, and 80 years male for SCC, and 46 years female for SP. The location was face (n = 2) and neck (n = 1) for SCC, and scalp for SP. The size of the lesion was 6 mm, 12 mm and 14 mm in diameter for SCC, and 13 mm in diameter for SP. Clinical symptom was small skin tumor in all cases. Metastases were absent in all cases.

Histologically, the four ECs showed walls of epidermis and contents of laminated keratins; the former consisted of basal cell layer, prickle cell layer, granular layer, and keratinous layer (Fig. 1A–D). Obvious keratohyaline granules (granular layer) were seen in all the 4 cases (Fig. 1A, B, D, and H). No trichilemmal keratinization was seen. Therefore, the cyst is not pilar or trichilemmal cyst, and the tumors are not proliferating trichilemmal tumors and are not proliferating epithelial tumor. The SCC showed extracystic (outward) growth and invasive features in all the 3 cases (Fig. 1B) as well as intracystic (inward) growth in 2 cases (Fig. 1A and C). The SCC was well differentiated one with keratinization in all the 3 cases; cancer pearls and intercellular bridges were present in all the 3 cases (Fig. 1A–D). Invasion into subcutis was seen in 2 cases. No evident lymphovascular permeation was seen. An immunohistochemical study was made with the use of Envision technique [3,6–8], which is very sensitive and specific. The SCC cells were positive for high molecular weight (MW) cytokeratin (CK) determined by CK34BE12 (Fig. 1F), but were negative for low and intermediate MW such as CAM 5.2 and AE1/3. CK7 and CK20 were negative, compatible with skin SCC. P53 and p63 proteins were positive in all cases (Fig. 1G). Human papilloma virus (HPV) protein (Clone K1H8) was negative. Ki-67 labeling index was 12%, 21% and 28%. These findings show the squamous nature of the tumor cells and malignant potentials of the tumor. In contrast, SP arising in EC showed only intracystic growth, sparing outward growth (Fig. 1H). The tumor cells showed papillary growth within the EC with fibrovascular cores. No atypia was recognized. Immunohistochemical profile was almost the same as those of SCC arising from EC, except for p53 showing negative reaction and Ki-67 identifying no positive cells. These features indicate the squamous and benign characters of the tumor. The HPV was negative.

Conclusions: SCC and SP can do arise in EC. HPV is, at least at the protein level, not associated with SCC and SP arising in EC. In SCC, the growth pattern is either or both of outward and inward. The outward growth often accompanies invasive features. All cases of SCC arising from EC were well differentiated SCCs with keratinization. In SP, the growth pattern was inward. This tumor should be differentiated from proliferating trichilemmal tumor and proliferating trichilemmal cyst. Immunohistochemistry may be useful in defining diagnosis.

The author has no conflict of interest.

Tadashi Terada M.D., Ph.D.
Department of Pathology, Shizuoka City Shimizu Hospital
Miyakami 1231, Shimizu-Ku, Shizuoka 424-8636, Japan
Tel.: +81 54 336 1111; fax: +81 54 334 1173
E-mail address: piyo0111jp@yahoo.co.jp

http://dx.doi.org/10.1016/j.ehpc.2014.11.008

2214-3300/© 2015 The Author. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/3.0/).
Fig. 1  Histological features. A: Squamous cell carcinoma (SCC) arising from an epidermal cyst (EC). There is an obvious granular layer. The obvious nature of EC is apparent. The SCC shows intracystic (inward) and extracystic (outward) growth; the latter shows invasive features. HE, ×10. B: SCC arising from an EC. The obvious nature of EC is apparent. The SCC shows extracystic (outward) growth; the latter shows invasive features. Distinct granular layer is seen. HE, ×10. C: SCC arising from a small EC. HE, ×10. D: High magnification of C: The granular layer is evident. HE, ×100. E: SCC arising from an EC. The invasive features of SCC are obvious. HE, ×200. F: SCC arising from an EC. The SCC cells are positive for high-molecular weight cytokeratin (CK34BE12). Immunostaining, ×200. G: SCC arising from an EC. The SCC is positive for p53. H: Very low power view of squamous papilloma (SP) arising from an EC. No atypical features are seen. Granular layer is apparently present. HE, ×10.

References


Letter to the Editor


