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Poorly Differentiated Squamous Cell Carcinoma in an Atomic Bomb Survivor

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Dear Editor:

Many epidemiological studies of atomic bomb survivors in Japan demonstrate that exposure to radiation increases the risk of cancers, especially leukemia, in most organs[1]. The risk of non-melanoma skin carcinoma in atomic bomb survivors is elevated[2], and the most common primary skin tumors among 152 skin tumors among patients exposed to atomic bomb radiation were basal cell carcinoma (42%), followed by squamous cell carcinoma (SCC) (26%), Bowen's disease (13%), and malignant melanoma (6%)[3]. Here, we report a case of poorly differentiated SCC in an atomic bomb survivor.

An 86-year-old Japanese woman visited our hospital with a one-month history of subcutaneous tumor in the inguinal region. She noticed a tumor on her the left side of waist when she was 46 years old. She was exposed to atomic bomb radiation in Hiroshima at the age of 19 years. Physical examination revealed a 32×40-mm reddish dome-shaped tumor on her the left side of the waist (Fig. 1A) and a 65×72-mm painful subcutaneous tumor on her left inguinal region (Fig. 1B). Blood examination revealed no abnormal changes. Whole-body computed tomography revealed no remarkable changes. Fluorodeoxyglucose-positron emission tomography revealed abnormal uptake in the tumor of on the waist and left inguinal lymph nodes. Histopathological examination of the waist tumor demonstrated numerous tumor cells throughout the dermis and subcutis (Fig. 1C). Atypical large tumor cells had irregular nuclear contours and prominent nucleoli (Fig. 1D). Immunohistochemistry showed the tumor cells were positive for keratin, CK7, p63, p40, and NSE but negative for CK20, chromogranin A, synaptophysin, thyroid transcription factor-1 (TTF-1), CD56, Melan-A, S-100, and EBER (Fig. 2A～E). The results of the histological and immunohistochemical examinations of the inguinal tumor were same. On the basis of these findings, she was diagnosed with poorly differentiated SCC in the waist and metastasis in the inguinal lymph nodes. Tumors in the waist and inguinal regions were resected, and she was subsequently treated with electron beam radiation (total dose: 59 Gy). Eight months later, a metastatic lesion in the left lung was observed, but she refused additional treatment.

Tumor cells were positive for keratin as well as squamous cell markers p63 and p40. The common markers of neuroendocrine carcinomas, including Merkel cell carcinoma, CK20, chromogranin A and synaptophysin, were negative. TTF-1, a marker of primary thyroid and lung carcinoma, was negative. These immunohistochemical results and the low differentiation pattern of tumors on hematoxylin & eosin staining lead to a final diagnosis of poorly differentiated SCC.

Regarding the relationship between the extent of tumor differentiation and atomic bomb radiation exposure, the frequency of poorly differentiated adenocarcinoma of stomach in atomic bomb survivors is significantly higher than that in non-exposed individuals[4]. Nevertheless, the association between atomic bomb radiation exposure and poorly differentiated SCC in our patient is speculative. A recent study reports multiple basal cell carcinomas were developed in atomic bomb survivors more than 40 years after radiation exposure[5]. Thus, exposure to atomic bomb radiation might influence the risk of cancers; therefore,

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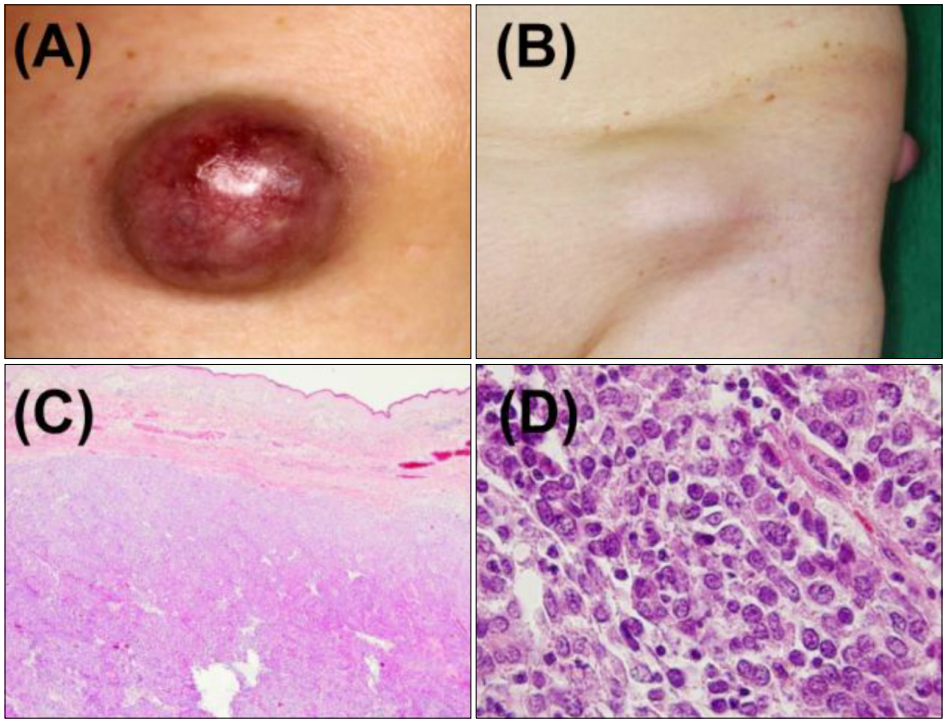

Fig. 1. (A) Reddish dome-shaped tumor on the left side of the waist. (B) Painful subcutaneous tumor on the left inguinal region. (C, D) Histopathological examination of the waist tumor (H&E; C: ×40, D: ×1,000). (C) Numerous tumor cells throughout the dermis and subcutis without continuity with the epidermis are visible. (D) Markedly atypical large cells with irregular nuclear contours and prominent nucleoli are shown.

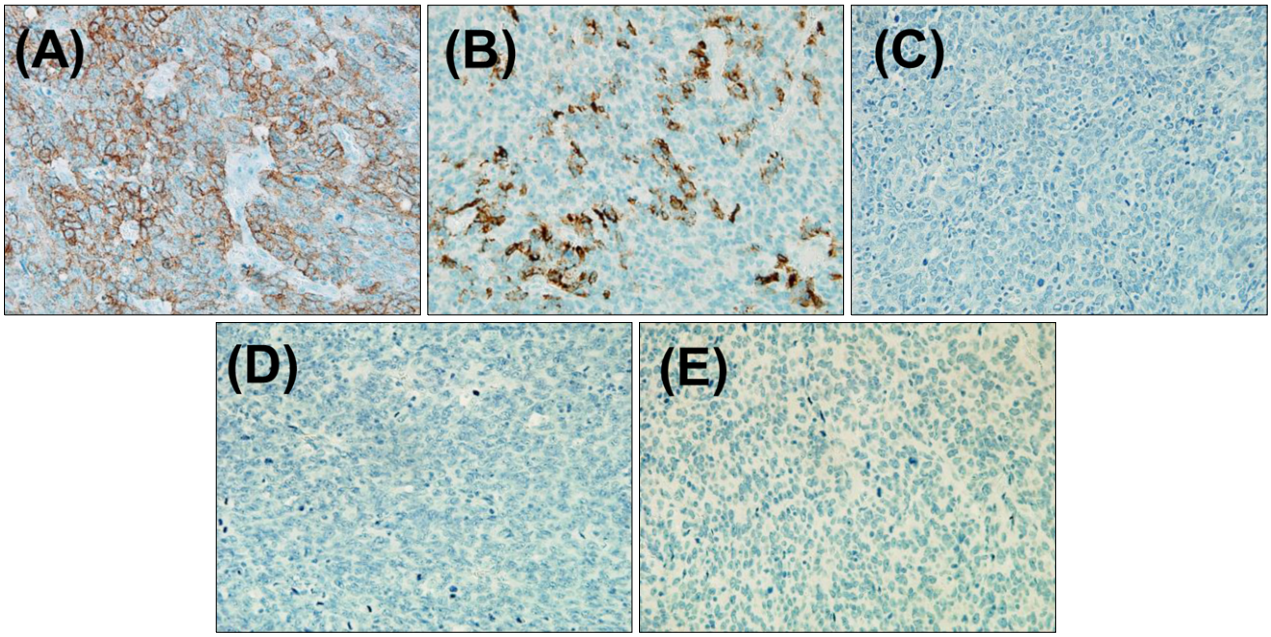

Fig. 2. Immunohistochemical examination of the waist tumor. Tumor cells stained positive for (A) keratin and (B) CK7, and negative for (C) chromogranin A, (D) CK20, and (E) thyroid transcription factor-1 (A∼E: ×400).

dermatologists should perform long-term surveillance for skin carcinomas in atomic bomb survivors.

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Bupropion-Induced Erythema Multiforme

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Dear Editor:

Drug reactions affecting the skin are more common than other parts of the body. Most drug-related skin reactions are easily treated benign lesions. However, in rare cases, severe lesions may also be observed. Skin reactions are particularly common in women, elderly people, people of African ancestry, multidrug users, and people with serious diseases. The frequency of skin reactions due to psychotropic drugs is reported to be 0.1%; almost one-third of them are due to antidepressants[1]. The frequency of skin reactions is 0.54% among 109,000 people taking antidepressants[2].

Bupropion is a new-generation antidepressant that mainly inhibits dopamine (by approximately 25%) and less substantially noradrenaline reuptake in neurons[3]. It is generally well tolerated. This prevalence of rash and pruritus in patients taking bupropion is 3.7%[2]. Here, we report a case of bupropion-induced erythema multiforme.

A 31-year-old woman with depression was being treated with bupropion 150 mg/day. On the sixth day of treatment, she started to suffer from headache, fatigue, and sub-febrile fever. In addition, vesicular lesions surrounded by pink areas developed on the upper extremities (Fig. 1). Therefore, dermatological consultation was requested. As a result, she was diagnosed with erythema multiforme. The possible causes of this disease were investigated. No pathologies were identified from the results of a hemogram, routine biochemical tests, thyroid function tests, erythrocyte sedimentation rate, full urine examination, or electrocardiography. Neither a provocation test nor skin test was performed. She had no remarkable disease history or allergic reaction. Therefore, bupropion treatment was terminated. Upon treatment termination, the lesions regressed, leaving hyperpigmentation starting from the third day and were completely healed within two weeks (Fig. 2). A few cases of erythema multiforme caused by bupropion

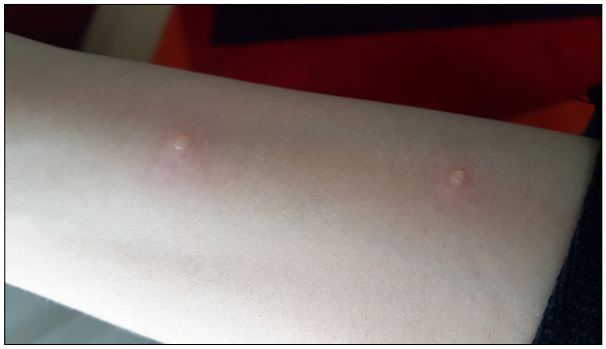

Fig. 1. Two, 2～3 cm, vesicular lesions on the right forearm.

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