A Case of Giant Basal Cell Carcinoma

Jeong Heon Lee, M.D., Hyang Joon Park, M.D.,
You Chan Kim, M.D., Yong Woo Cinn, M.D.

Department of Dermatology, College of Medicine, Dankook University
Cheonan, Korea

Giant basal cell carcinoma(BCC) is a clinical expression of a large-sized BCC, which can cause extensive local invasion and disfigurement and have a particular capacity for metastasis. In the development of this large tumor, several risk factors including patient neglect, aggressive histological features and long duration, are identified. We have observed a very large BCC on the forehead of an elderly man for more than 4 years. He had been suffering from psychiatric disease for a long time, and patient neglect due to this problem played a crucial role in the development of this giant BCC. (Ann Dermatol 9:(3) 236~238, 1997).

Key Words : Giant basal cell carcinoma, Patient neglect.

Basal cell carcinoma is a malignant skin tumor arising from the basal cells of the surface epidermis or external root sheath of the hair follicle[1]. They are locally invasive and slowly spreading, but rarely metastasize. Most are small and easily treated by a variety of methods with an acceptable cure rate. A rare variant, "giant" BCC has unusual large size(>5 cm in diameter) and demonstrates very malignant behaviors such as extensive local invasion, disfigurement and metastasis[2-3]. Here, we report a case of giant BCC with psychiatric problem.

REPORT OF A CASE

A very talkative and restless, 73-year-old man visited our department because of a huge, vegetative, sessile and ulcerative plaque on the forehead which he had had for at least 4 years. The lesion masured 7 × 7 cm and showed oozing and bleeding(Fig. 1). There was no regional lymph node enlargement. A skin biopsy specimen showed adenoid BCC associated with solid BCC of the infiltrative type component(Fig. 2). Because he show-ed aggressive behavior and talked to himself continuously at the time of diagnosis, we consulted the department of psychiatry about his abnormal mental status. These psychiatric symptoms had been present for 30 years, with episodes occuring approximately once a year. A diagnosis of bipolar disorder, manic episode was made. After psychiatric treatment, the patient calmed down and we planned to perform surgical excision and a full thickness skin graft. However, routine preoperative laboratory tests and a chest X-ray revealed severe pulmonary hypertension and this condition made surgical intervention impossible. Therefore the patient was referred to the department of therapeutic radiology for radiation therapy. A time-dose schedule of 2.5 Gy was given at 2- to 3-day intervals over 1 month, for a total accumulated dose of 50 Gy. The lesion responded very well and a small atrophic scar was left(Fig. 3). After radiotherapy, there was no evidence of recurrence for 6 months.

Received March 23, 1997.
Accepted for publication May 30, 1997.
Reprint request to : Jeong Heon Lee, M.D., Department of Dermatology, College of Medicine, Dankook University Cheonan, Korea

DISCUSSION

Classification, from the American Joint Committee on Cancer, was based on the size of the tumor: T1, tumors 2 cm or less in greatest dimension; T2, tumor more than 2 cm but not more than 5 cm in greatest dimension; T3, tumor 5 cm or more in greatest dimension[4]. Randle et al. designated tumors in the third category as "giant"[3].

The giant BCC is a rare variant of the usually

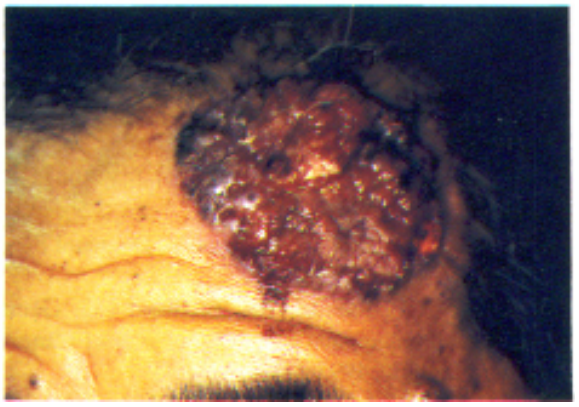

Fig.1. Huge, vegetative, sessile and ulcerative plaque on the forehead.

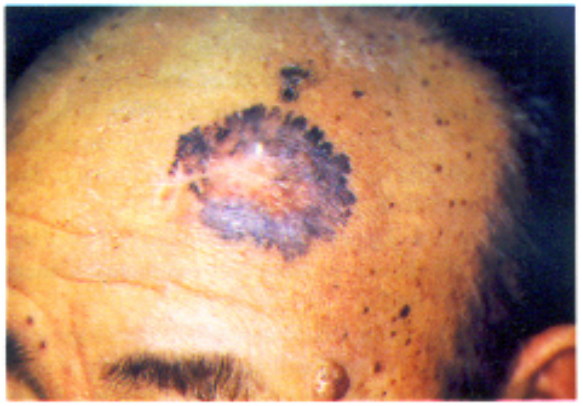

Fig. 3. Adenoid BCC with infiltrative properties in the deeper aspect of the tumor(H&E, ×40).

small, indolent and nonaggressive BCC. Less than 1 % of all BCCs reach this size. There are several clinical, environmental and pathological characteristics that are more common in patients with giant BCC than in patients with smaller lesions. They are: long duration; patient neglect; aggressive histological features; recurrence after previous treatment and history of radiation exposure[2]. The most important factor of all, however, is thought to be patient neglect[5].

Neglect may be the result of denial or cognitive impairment(for example, depression, dementia, and Alzheimer's disease) or associated with a low educational level. On the contrary, a small number of patients admittedly neglected their cancer because they were "too busy" to seek treatment[3]. Our patient had a long history of bipolar disorder, and this undoubtedly contributed to the progression of the tumor to such a large size.

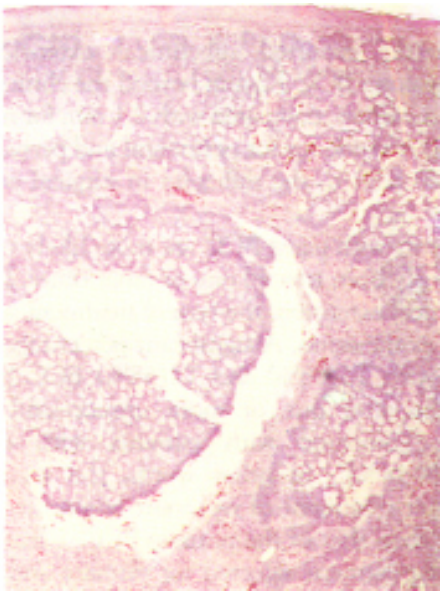

Fig. 2. After radiotherapy, a large portion of the lesion disappeared, leaving a residual atrophic scar with peripheral hyperpigmentation.

The histological features of the tumor may also be a factor in the development of giant BCC. Certain histological forms(infiltrative, morpheaform, and metatypical) have been associated with a wide subclinical extension and high recurrence rate[6-8]. Thus, they are classified into aggressive subtypes. Common features of these histological subtypes of BCC include small masses and thin strands of tumor cells. They tend to grow along spaces between the collagen and hair follicles, sweat glands, cartilage, bone, nerves, and vessels to deeply invade the dermis or subcutaneous tissue[3]. Barsky et al. found high levels of type IV collagenase(capable of degrading basement membranes) in morpheaform BCC and proposed that this increase is a mechanism by which the morpheaform tumor could invade host tissue and, therefore, grow to a giant size[9]. In our case, the histopathological finding showed mainly the adenoid type, but the infiltrative subtype coexisted partly.

Subclinical extension means small, fingerlike outgrowths into the tumor circumference horizontally. It depends on two factors, the histological subtype and tumor size, and is responsible for recurrence after inadequate treatment[10]. Salache and

Amonette[11] reported subclinical extensions of morpheaform BCC 7.2 mm beyond the clinically estimated borders, compared with 2.1 mm for nodular lesions. A tendency for perineural and perivascular invasion adds to the difficulty in surgical eradication[12].

Patients with giant BCC are more likely to have previously been treated one or more times. Besides subclinical extension, the type of treatment selected is one explanation. A significant percentage of patients with T3(68%) and T2(58%) BCC had recurrence after one or more unsuccessful treatments, compared with patients with smaller BCCs(4-14%)[3]. In other words, the recurrence rate after treatment of recurrent lesions are much higher than that of the primary BCC. Clearly, the type of treatment selected for primary and recurrent tumors is of considerable importance to prevent another recurrence and the potential progression to a giant BCC[12].

Metastatic BCCs are rare, but when they occur, they are often associated with giant BCCs. The large size of the primary lesion is the most outstanding feature of metastatic disease and metastatic potential is related to the depth of invasion[2]. The 3 cm tumors metastasize at a rate of 1.9%, in contrast to 0.03% for the ordinary, small BCCs[5]. Furthermore, tumors more than 25 cm in diameter demonstrate a universal capacity for metastasis or fatal outcome[5]. This suggests that BCCs are potentially lethal when they achieve a critical mass. However, our patient did not show any evidence of metastasis at the time of diagnosis.

For the treatment of the giant BCC, a variety of modalities have been used with inconsistent results. They include surgical excision and grafting, Mohs micrographic surgery or radiation therapy[3-5]. In our case, radiation therapy was recommended due to severe pulmonary hypertension, which was a contraindication to general anesthesia, and the outcome was satisfactory.

REFERENCES

1. Moschella SL, Hurley HJ: Tumors of the skin, Koh HK, Bhawan J, In: Dermatology.
3rd ed. WB Saunders Co, Philadelphia, 1992, pp 1746-8
2. Randle HW: Basal cell carcinoma.. Dermatol Surg 22:255-61, 1996.
3. Randle HW, Roenigk RK, Brodland DG: Giant basal cell carcinoma(T3). Who is at risk? Cancer 72(5):1624-30, 1993.
4. Beahrs OH, Henson DE, Hutter RVP et al.(eds): Carcinoma of the skin(excluding eyelid, vulva and penis). In: American Joint Committee on Cancer: Manual for staging of cancer. 4th ed. JB Lippincott, Philadelphia, 1992, pp 137-41
5. Sahl WJ Jr., Snow SN, Levine NS: Giant basal cell carcinoma. Report of two cases and review of the literature. J Am Acad Dermatol 30:856-9, 1994.
6. Sloan JP: The value of typing basal cell carcinomas in predicting recurrence after surgical excision. Br J Dermatol 96: 127-32, 1996.
7. Jacobs GH, Rippey JJ, Altini M: Prediction of aggressive behavior in basal cell carcinoma. Cancer 49:553-7, 1982.
8. Sexton M, Jones DB, Maloney ME: Histologic pattern analysis of basal cell carcinoma: Study of a series of 1039 consecutive neoplasm. J Am Acad Dermatol 23:1118-26, 1990.
9. Barsky SH, Grossman DA, Bhuta S: Desmoplastic basal cell carcinomas possess unique basement membrane-degrading properties. J Invest Dermatol 88:324-9, 1987.
10. Breuninger H: Prediction of subclinical tumor infiltration in basal cell carcinoma. J Dermatol Surg Oncol 17:574-8, 1991.
11. Salasche SJ, Amonette RA: Morpheaform basal-cell epitheliomas: a study of subclinical extension in a series of 51 cases. J Dermatol Surg Oncol 7:387-94, 1981.
12. Levine HL, Bailin PL: Basal cell carcinoma of the head and neck: Identification of the high risk patient. Laryngoscope 90:955-61, 1980.