Rare Presentations of Basal Cell Carcinoma

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Abstract

Background: Even though basal cell carcinomas (BCC) are the most common skin cancers in the world, they rarely appear in the African-American, Hispanic, and Asian populations. BCCs most commonly present on the head and neck of elderly, light-skinned individuals who have received an excessive amount of sun exposure. However, it has been hypothesized that the development of BCCs in unusual populations is a result of an alteration in tumor surveillance or an impairment in cellular immunity.

Objective: We present two cases of BCC, one in an Asian woman and one in an African-American woman. Neither of these patients had any history of genodermatoses or were immunocompromised.

Conclusion: BCCs can occur in Asian and African-American patients. Clinicians should include the diagnosis of BCC in their differential for these patients despite their rare presentations.

Antécédents: Bien que les carcinomes baso-cellulaires soient la forme de cancer cutané la plus répandue au monde, ils atteignent rarement les populations afro-américaines, hispaniques et asiatiques. Les carcinomes baso-cellulaires apparaissent généralement dans la région de la tête et du cou des personnes âgées ayant la peau claire, qui s’exposent longuement au soleil. Toutefois, on a posé l’hypothèse que l’apparition de ces carcinomes chez les populations à faible risque résulterait d’un changement dans la surveillance des tumeurs ou d’un dysfonctionnement de l’immunité cellulaire.

Objectif: Présenter deux cas de carcinomes baso-cellulaires; l’un concernant une femme asiatique et l’autre une femme afro-américaine. Aucune de ces deux patientes n’avait pas d’antécédents de génodermatoses ni ne présentait une déficience immunitaire.

Conclusion: Les carcinomes baso-cellulaires peuvent se manifester chez des patients asiatiques et afro-américains. Par conséquent, les cliniciens doivent inclure le diagnostic des carcinomes baso-cellulaires dans leur diagnostic différentiel de ces catégories de patients, malgré le très faible risque d’atteinte.

Basal cell carcinoma (BCC) is the most common skin cancer in the world. According to recent statistics, BCC accounts for more than 75% of skin cancer.1–3 Over 90% present on sun-exposed areas of the head and neck of elderly, light-skinned individuals.3 Exposure to sunlight plays a principal role in the development of basal cell carcinoma. BCC is uncommon in African-American, Hispanic, and Asian populations.1,4 It rarely occurs before the age of 40.3 We report two cases, one of a young Asian woman and one of a young African-American woman, who developed BCCs on their face.

Case 1

A 27-year-old Asian woman presented with an asymptomatic lesion on her nose, which she had for five years. The patient reported an increase in the size of the lesion as well as bleeding from the lesion for six months. There was no personal or family history of skin cancer. The patient denied exposure to radiation or arsenic, organ transplantation and immunosuppressive therapy, and any other medical problems. However, the patient reported childhood exposure to sun while playing tennis. She did report using sunscreen.

Physical examination revealed a 2-mm skin-colored papule on the left nasal ala. There was no evidence of basal cell nevus syndrome. The biopsy showed a basal cell carcinoma of the adenoma type, which was excised by Mohs micrographic surgery in two stages. The final defect was closed with a full thickness skin graft.
FIGURE 1 Preoperative photograph of basal cell carcinoma on right distal nasolabial fold.

Case 2

A 36-year-old African–American woman with a history of sarcoidosis presented with an asymptomatic lesion on her right distal nasolabial fold that she had for 15 years (Fig. 1). The patient reported an increase in the size and mild bleeding from the lesion. She denied exposure to radiation or arsenic, organ transplantation and immunosuppressive therapy, and any personal or family history of skin cancer. She does, however, live in Miami, Florida, which is close to the equator and receives intense sun exposure. She denied participating in outdoor activities and using sunscreen.

Physical examination revealed a 4-mm × 3-mm atrophic tan papule on the right nasolabial fold. There was no evidence of basal cell nevus syndrome. Biopsy revealed a basal cell carcinoma of the adenoma or glandular type. Within the dermis there were lobules of basaloïd cells with adenoid or glandular pattern, a palisading pattern, and surrounding desmoplastic reaction. The patient underwent Mohs micrographic surgery in two stages. The final defect was closed primarily.

Discussion

Nonmelanoma skin cancer is the fastest growing malignancy in the world. Australia has the highest documented incidence of BCC in the world, while Kauai, Hawaii, has been found to have the highest documented incidence of BCC in the United States. This has been attributed to an increase in outdoor activities and thus a higher exposure to damaging ultraviolet sunlight in Hawaii. Chuang et al. reported that the incidence of BCC is 45 times greater for Japanese living in Kauai than in Japan. This is due to exposure to intense UV radiation, an emphasis on outdoor activities, and an outdoor-oriented lifestyle. Also, these people are exposed to arsenic in fertilizers while working in the fields. The exposure to ultraviolet sunlight and arsenic have been shown to cause skin cancers like BCC.

Studies have revealed that the most common site of presentation of BCC in Caucasians, Africans, and Asians is the sun-exposed area of the nose. Singh et al. reported that BCCs appear less frequently on the head and neck of African–Americans (44%) than of Caucasians (76%). Because African–Americans have melanocytes that are more resistant to cytopathic damage from solar radiation, they rarely will present with skin cancers like BCC.

Still some populations, like Hispanics, African–Americans, and Asians, rarely develop BCC. In addition to sun exposure, it has also been postulated that the presence of BCC in non-sun-exposed areas and in unusual populations is due to an alteration in tumor surveillance or an impaired cellular immunity. This premise is supported by a study showing that 16.5% of Black patients with BCC also present with a second malignancy. Sixty-five percent of these malignancies are lung carcinoma.

Further, Pollard et al. reported that immunosuppressive therapy post-transplant impairs tumor surveillance leading to an increased risk of skin cancer. Also, these skin cancers are more aggressive in immunosuppressed patients. Orozco et al. also found that skin cancers in this subset of patients occur more frequently and are more aggressive and recurrent. Espana et al. reported that 15.2% of transplant patients will develop skin cancers. There was a 4.3% risk at 1 year post-transplant and 43.8% risk at 7 years. This risk was attributed to the immunosuppressive therapy, to certain patients like Caucasians, and to certain HLA types like DR, A3 and B27. On the other hand, HLA-A11 has a protective effect on patients, making them less susceptible to developing skin cancers.

Another group of patients at risk for developing skin cancers are albinos. Ademihuyi et al. found that albinos develop skin cancers like BCC ten years earlier than African–Americans. This is due to the lack of protective melanocytes. Also, albinos have a higher mortality rate and a higher recurrence rate.

Both patients we presented were women less than 40 years of age that belonged to ethnic populations, that only rarely develop BCC. The first patient was Asian woman. The only apparent risk factor was exposure to the sunlight while playing tennis. The second patient was an African–American woman who did not participate in outdoor activities, however, she did live in a highly sun-exposed area. Furthermore, neither patient had any signs or symptoms of genodermatoses, such as xeroderma pigmentosum, basal cell nevus syndrome, or albinism, nor were they in an immunocompromised state, which could account for the development of BCC. This case report illustrates that BCC may present in darker skin types, and thus clinicians should include BCC in their differential when examining these patients.