Single Case

Squamous Cell Carcinoma Associated with Cosmetic Use of Bleaching Agents: About a Case in Ivory Coast

Koffi Kouamé Pacôme Gbandama^a Almamy Diabaté^b
Kouamé Alexandre Kouassi^a Yao Isidore Kouassi^a Ange-Sylvain Allou^a
Mamadou Kaloga^a

^aDepartment of Dermatology and Venereology, University Hospital of Treichville, University Félix Houphouët-Boigny of Abidjan, Abidjan, Ivory Coast; ^bDepartment of Dermatology, University Hospital of Bouaké, University Alassane Ouattara of Bouaké, Bouaké, Ivory Coast

Keywords

Black skin · Cosmetic skin bleaching · Hydroquinone · Squamous cell carcinoma

Abstract

Voluntary skin depigmentation is defined as a set of procedures for obtaining skin clarification for cosmetic purposes. Skin cancers are possible complications, but rarely reported. We describe a case observed in Ivory Coast. A 52-year-old Ivorian woman consulted the Dermatology Department of the University Hospital of Treichville, Abidjan for an ulceration of the middle third of the right clavicle evolving for 10 months. A diagnosis of squamous cell carcinoma (SCC) was confirmed by histological examination of the tumour biopsy. Retroviral serology (HIV) was negative. An excision of the tumour was performed. The postoperative consequences were simple. We report a case of SCC following long-term use of depigmenting cosmetic products in a female phototype VI. SCC is the most common skin cancer among black Africans. It is secondary to precancerous lesions or takes place on a damaged skin. Concerning our patient, the onset of this carcinoma could be associated with the carcinogenic effect of hydroquinone and topical corticoids used for a long time. In addition, no precancerous lesion or preexisting

condition were found. The chronic evolution without healing was in favour of a neoplastic origin achieved through the analysis of the biopsy sample.

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Introduction

Voluntary skin depigmentation is defined as a set of procedures for obtaining skin clarification for cosmetic purposes [1]. The use of depigmenting cosmetic products carries risk of skin and systemic complications [2]. Skin cancers are possible complications, but rarely reported. A few cases have been reported in Ghana, Senegal, and Mali [2–4]. We describe a case observed in Ivory Coast.

Case Description

A 52-year old Ivorian woman, a shopkeeper, consulted the Dermatology Department of the University Hospital of Treichville, Abidjan for an ulceration of the middle third of the right clavicle evolving for 10 months (Fig. 1). The lesion began with a pruritic nodule of the right clavicle that gradually ulcerated without pain or bleeding. The patient applied traditional poultices to the lesion without beneficial effect. There was no particular history other than the daily use of depigmenting cosmetic products in the form of ointment and body lotions based on lemon, hydroquinone, and dermocorticoid extracts for several years. Physical examination revealed a large ulcer-budding tumour (4 × 5 cm) at the middle third of the right clavicle, associated with skin atrophy and severe skin xerosis. There were no peripheral adenopathies. The rest of the physical examination was without particularity. Retroviral serology (HIV) was negative.

An excision was performed (Fig. 2) with histological examination that confirmed a moderately differentiated and mature squamous cell carcinoma (SCC). The postoperative consequences were simple.

Discussion

We report a case of SCC following long-term use of depigmenting cosmetic products in a female phototype VI. The complications of voluntary skin depigmentation are well known and documented [5]. They are local and systemic. Local complications are numerous and frequent, including dermatophytic diseases, scabies, acne, pyoderma, bacterial dermohypodermatitis, exogenous ochronosis, and stretchmarks [5]. Systemic complications are represented by diabetes, high blood pressure, exogenous hypercorticism, and the risk of adrenal insufficiency at the end of the practice [4]. Other complications related to general corticosteroid therapy have been reported, namely bone necrosis, cataract, and glaucoma [6]. A study conducted by Ndoye Roth et al. [7] in Senegal showed that artificial depigmentation was responsible for ocular lesions, and these were dominated by exogenous ochronosis lesions of the eyelid and ocular ochronosis. Two cases of SCC in black women of phototype VI using long-term depigmenting products have been described in Senegal [4]. Our observation confirms the occurrence of cancer on depigmentation sites and contributes to the description of this complaint associated with voluntary depigmentation. SCC, although rare on black skin, is the most common skin cancer in African black people. It represented 0.09% of dermatoses in consultation in a study

in Senegal [8]. This carcinoma is secondary to precancerous lesions or occurs on damaged skin. There are several arguments to suspect the role of depigmenting products in the occurrence of these carcinomas: the relatively young age of the patients, their high phototype, and the absence of any known risk factors for SCC, including no infection with human papilloma-virus or other preneoplastic dermatoses such as burn scars, discoid lupus erythematosus, or genodermatoses such as xeroderma pigmentosum or Lutz-Lewandowsky epidermodysplasia verruciformis [9]. In our patient, no precancerous lesions or other preexisting pathology were found. The occurrence of this carcinoma may be related to the carcinogenic action hypothetically attributed to hydroquinone and long-term corticosteroids. Ly et al. [4] suspected hydroquinone to be the causative factor in the occurrence of SCCs in their patients. Our observation points in this direction, all the more so since hydroquinone, suspected to play a role of carcinogen or cocarcinogen, is involved in the occurrence of kidney, liver, and leukaemia tumours in rodents [10]. Due to the combination of lemon extracts, hydroquinone, and dermocorticoids, the cocarcinogenic action of hydroquinone appears to have been reinforced in our patient. However, there are no data from published studies that can be used to confirm the effectiveness of the carcinogenicity of depigmenting agents [6]. The SCC lesion found in our patient was located at the middle third of the right clavicle. SCC can reach all parts of the body, including the oral and genital mucosa, but is more common in sun-exposed areas. These photoexposed areas are the face, ears, lower lip, bald scalp, neck, back of hands, arms, and legs. A study conducted by Ly et al. in Senegal from 2005 to 2016 [11] identified 8 cases of SCCs associated with voluntary skin depigmentation in which lesions were localized to lichenoid lesions or exogenous ochronotic lesions on photoexposed areas (face, neck, or upper back). Voluntary skin depigmentation practitioners aim to make their skin lighter and even whiter. A study has shown that ultraviolet radiation is an important factor in most cases of SCCs [12]. In our regions, people are constantly exposed to the sun. Dermocorticoids, used for artificial depigmentation, lead to a progressive disappearance of melanin, resulting in a decrease in photoprotection. The development of SCCs such as our patient's could be explained by the disappearance of photoprotection and chronic solar exposure. In addition, people with fair skin were shown to be more prone to skin cancer [13]. The chronic evolution without tendency to heal militated in favour of a neoplastic origin, confirmed by histological examination. Total excision of the lesion was performed. The absence of remote locations explained the non-use of chemotherapy.

Conclusion

Voluntary skin depigmentation is a predominant practice in our countries. Its complications are numerous and well known. Skin cancers secondary to use of depigmenting cosmetics are rarely reported. However, due to the products used, their incidence would tend to increase more and more within our populations. This requires special attention from the users of these products. Awareness campaigns should be initiated, with a particular focus on the risk of skin cancer.

Statement of Ethics

Our clinical case did not require any special interventions concerning the patient. No experimentation was performed on the patient. Only the photos of the lesion before and after

excision were taken with the agreement of the patient. She was informed of what her photos would be used for and accepted their use in scientific publications. She freely answered our questions concerning the symptomatology and the evolution after excision of the lesion. The approach adopted is in accordance with the research principles of the National Committee of Ethics and Research of Ivory Coast created in 2001 by decree No. 2001-12 of January 3, 2001.

Disclosure Statement

The authors declare that they have no conflicts of interest.

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Author Contributions

Prof. M. Kaloga: initiator of the work. Dr. K.K.P. Gbandama: corresponding author, redactor of the article. Dr. A. Diabaté: contributing author. Dr. K.A. Kouassi: contributing author. Dr. Y.I. Kouassi: contributing author. Dr. A.-S. Allou: contributing author.

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Fig. 1. Ulceration of the right clavicle.

Fig. 2. Lesion after excision.