

Bowen's disease: Report of a case in a Nigerian man

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Summary

Bowen's disease (cutaneous squamous cell carcinoma in situ), like other cancers of the skin, is rare in black people – to our knowledge, only about 43 cases have been published in the medical literature. We report a 59-year old Nigerian man who presented with a five-year history of a mildly pruritic, slowly enlarging well-circumscribed plaque on the lower part of the anterior region of the chest on the right side. The lesion had an irregular crusted periphery and an atrophic hypopigmented centre. Histological examination confirmed a diagnosis of Bowen's disease. No predisposing factor was found to be relevant in this case – although he might have had brief occupational exposure to arsenic, it is unlikely that this was the cause of his disease. The published literature on Bowen's disease in blacks is briefly reviewed.

Key-words: *Bowen's disease, Skin cancer blacks, Cutaneous malignancy, Arsenical cancers.*

Résumé

La maladie de Bowen (carcinome cellulaire cutané squameux in situ), comme d'autres cancers de la peau, est rare parmi les noirs - à notre connaissance, seul environ 43 cas ont été publiés dans la presse médicale. On signale le cas d'un vieux nigérian, de 59 ans, qui au bout cinq ans présente un problème de léger prurit, s'agrandissant lentement - la plaque circonscrite sur la partie inférieure de la région antérieure de la poitrine sur le côté droit. La lésion avait une périphérie irrégulièrement encroûtée et le centre atrophique hypo pigmenté. L'examen histologique a confirmé un diagnostic de la maladie de Bowen. Aucun facteur prédisposant n'a été trouvé pour être pertinent dans ce cas - bien qu'il ait pu avoir une brève exposition professionnelle à l'arsenic, il est peu probable que cela soit la cause de sa maladie. La documentation publiée sur la maladie de Bowen parmi les noirs est brièvement revue et corrigée.

Introduction

Bowen's disease (cutaneous squamous carcinoma in situ) is rare in black people – only about 43 cases have been reported in the medical literature. We report a case in a Nigerian man and briefly review the literature on the subject.

Case report

A 59-year old man presented to the dermatology clinic with a 5-year history of an occasionally mildly itchy, slowly enlarging lesion on the lower part of the anterior region of the chest on the right. He had worked as a forestry worker for 34 years until his retirement 6 years before presentation. During the first five years of his work, sodium arsenite had been used to poison some tree species but he denied using it

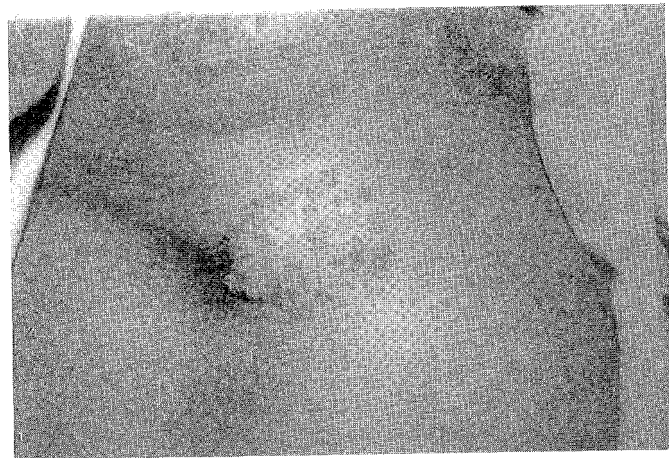


Fig. 1 Photograph shows a well-circumscribed crusted plaque of Bowen's disease on the lower part of the chest.

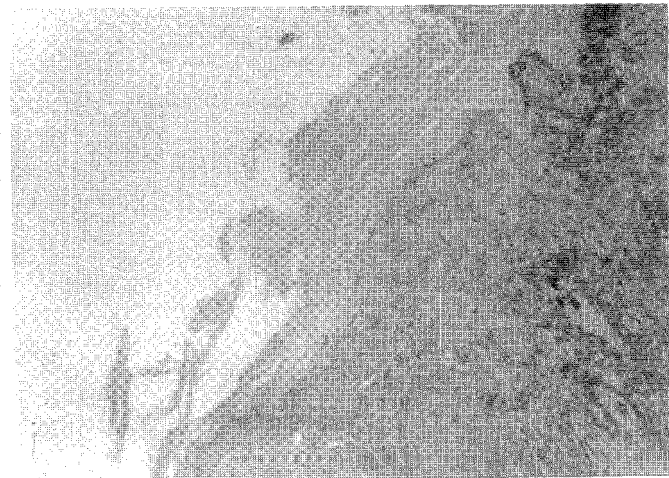


Fig. 2 Histologic section of Bowen's disease. Note marked full thickness epidermal dysplasia characterized by nuclear pleomorphism, and loss of polarity of the keratinocytes. The dermo-epidermal junction is intact (H & E x 100).

himself or coming in contact with it in any way. He also denied taking any medications containing arsenic. He had lived in many communities where well water was the only source of water. There was no history of long-term application of heat to the chest. He had well-controlled essential hypertension and type two diabetes mellitus and enjoyed good general health.

On examination, he had a well-circumscribed 4 cm by 5 cm plaque on the right side of the lower part of the anterior aspect of the chest (figure 1). The plaque had an irregular outline with a crusted periphery and a hypopigmented centre. The rest of the examination was normal. There were no other skin manifestations suggestive of chronic arsenic ingestion. Histological examination (figure 2) of a punch biopsy showed parakeratosis, acanthosis and broadening of the rete pegs. There was marked full thickness pleomorphism of

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keratinocytes and hyperchromasia of nuclei with loss of polarity of cells. The dermis showed infiltrates of chronic inflammatory cells. The dermo-epidermal junction was intact. The lesion was subsequently excised with primary closure of the skin.

Comment

Bowen's disease is a form of intra-epidermal (in situ) squamous cell carcinoma and, like other pre-malignant skin conditions, is rare in black people. The largest series (21 lesions in 19 patients) was reported by Mora, Perniciaro and Lee in their retrospective study of skin cancer in black-patients in New Orleans, United States, between 1948 and 1982.¹ Rosen and his colleagues reported 7 cases from Texas,² and Graham and Helwig reported that out of 155 cases of Bowen's disease, only 4 were black.³ The rest of the cases were isolated single reports. We were able to find only six single reports of Bowen's disease from Black Africans.⁴⁻⁹ Our patient was treated for many years with topical and systemic antifungal agents and antibiotics without any improvement. Prompt referral to a dermatologist would have allowed differentiation of this condition from common skin problems seen in the tropics such as fungal and bacterial skin infections but would also have facilitated exclusion of chronic plaque psoriasis, discoid lupus erythematosus, and tuberculosis verrucosa cutis, conditions that might resemble Bowen's disease clinically.

Majority of the cases of Bowen's disease occurred in the seventh and eight decades although younger patients were also seen. Women were affected slightly more than men. Most cases of Bowen's disease in blacks occurred in non-sun exposed skin as in our patient. This contrasts with the disease in whites where lesions are found in sun-exposed parts of the body (head, neck, arms, leg in women). A lesion on the palm has been reported⁵. Lesions were usually solitary although multiple lesions occurred in a few patients. The morphology of Bowen's disease was similar to those in other races although a fungating tumour of the anterior abdominal wall with histological feature of the disease was reported by Leibowitz et al. in a South African man.⁷ This case was unusual, however, in also having features of basal cell carcinoma with sebaceous differentiation. There was also strong evidence of arsenic intoxication in this patient.

Chronic arsenic ingestion is a well known predisposing factor for Bowen's disease.¹¹ Although our patient may have had brief occupational arsenic exposure, there is no strong evidence that this was the cause of his disease: He had a single lesion (arsenical cancers are multiple),¹¹ and did not have other cutaneous features of arsenic intoxication such as diffuse generalized pigmentation or rain drop pigmentation or palmo-plantar keratoses, features that were found in up to 90% of patients with chronic exposure.¹¹ Moreover, arsenic ingestion was thought responsible for Bowen's disease in blacks in only five of the cases reported. Three patients had epidermodysplasia verruciformis,^{4,6,8} a rare, life-long generalized infection with human papilloma viruses characterized by the development of cutaneous carcinomas, often at an early age. Chronic application of heat, irritated seborrhoeic keratosis and lymphopathic strictures were

thought responsible in three patients.¹ Most patients had no obvious predisposing factor.

The association of Bowen's disease and internal malignancy is disputed. Five of 19 of Mora's patients had an internal malignancy (diagnosis of Bowen's was made first in three patients) which included polycythemia vera and leukaemia, mycosis fungoides, and carcinomas of the large intestine, cervix and prostate.¹ Of the seven patients reported by Rosen, one developed adenocarcinoma of prostate at follow-up.² A meta-analysis of 12 studies has, however, found no significant association between Bowen's disease in general and internal malignancy.¹³

Treatment of Bowen's disease was principally by total excision and primary closure. Other modalities of treatment used included curettage and desiccation, cryotherapy and 5-Fluorouracil. Invasive disease and metastasis occurred in only a few patients.¹

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