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(CASE REPORT)

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Paraneoplastic Acrokeratosis (Bazex Syndrome) associated with pulmonary adenocarcinoma

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Abstract

Bazex paraneoplastic acrokeratosis is a rare dermatosis often preceding the diagnosis of internal malignancies, most commonly squamous cell carcinoma of the upper aerodigestive tract.

We report the case of an 82-year-old man with pulmonary adenocarcinoma presenting with erythematous and scaly plaques with palmoplantar keratosis. Clinical and histologic findings supported the diagnosis of Bazex syndrome. This case emphasizes the importance of recognizing paraneoplastic skin signs as potential early indicators of hidden cancers.

Keywords: Bazex Syndrome; Paraneoplastic Acrokeratosis; Pulmonary Adenocarcinoma; *Paraneoplastic dermatosis*; *Acrokeratosis Paraneoplastica*

1. Introduction

Bazex paraneoplastic acrokeratosis is a rare paraneoplastic dermatosis characterized by symmetrical, erythematous to violaceous, scaly plaques that typically affect acral areas such as the hands, feet, ears, and nose. It is associated with underlying malignancies, particularly squamous cell carcinomas of the upper aerodigestive tract, although cases involving lung, gastrointestinal, and genitourinary tumors have also been reported.

Since the cutaneous manifestations often precede the diagnosis of the underlying cancer in more than two-thirds of cases, early recognition of Bazex syndrome is essential. Prompt identification may facilitate earlier detection and management of an otherwise occult malignancy, potentially improving patient outcomes.

2. Case Report

An 82-year-old male patient, a chronic smoker, was recently diagnosed with poorly differentiated and invasive pulmonary adenocarcinoma with adrenal metastases. He is currently undergoing palliative chemotherapy. Over the past six weeks, he developed pruritic, erythematous lesions in the axillary, inguinal, and intergluteal folds, which were treated empirically with antifungal agents without clinical improvement.

On examination, erythematous, slightly infiltrated lesions with overlying scales were observed in the inguinal, axillary **(figure 1),** and intergluteal folds, as well as on the face and neck. These lesions were accompanied by palmoplantar keratosis **(figure 2)** and diffuse xerosis.

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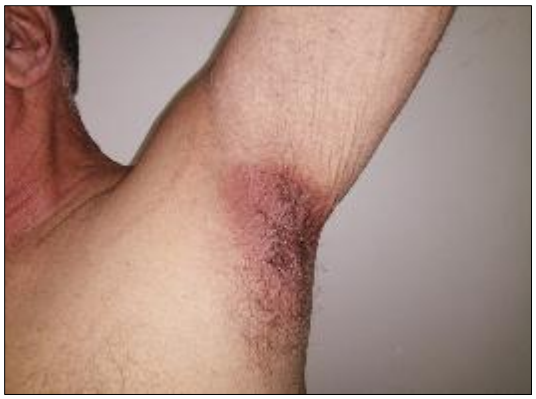

Figure 1 Well-defined erythematous-squamous lesions localized in the axillary area

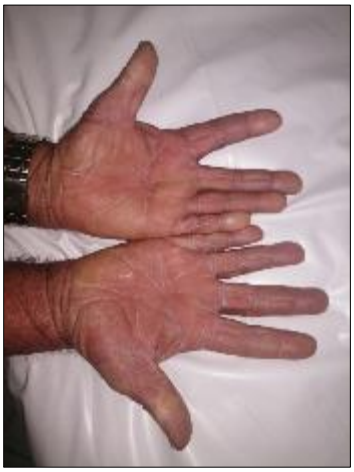

Figure 2 Bilateral palmar keratosis

A skin biopsy was performed, which, although non-specific, helped rule out other differential diagnoses such as psoriasis, eczema, seborrheic dermatitis, and cutaneous fungal infections. The patient was subsequently started on topical corticosteroids and phototherapy sessions.

3. Discussion

Paraneoplastic acrokeratosis, also known as Bazex syndrome, is a rare cutaneous paraneoplastic manifestation first described by André Bazex in 1965. It remains a diagnostic challenge due to its rarity and its clinical overlap with more common dermatoses. While it is typically associated with squamous cell carcinomas of the upper aerodigestive tract [1], it can also be observed in association with other malignancies, such as pulmonary carcinoma, as reported in a few case series [2, 3, 4] and as demonstrated in our case.

Clinical signs most often appear before the initial symptoms of the underlying neoplasm. They typically present as poorly defined, red to violaceous, scaly plaques located on the ears, nose, hands, and feet. Palmoplantar keratosis is frequently observed and may be one of the earliest signs. Knee involvement is reported in less than 25% of cases and usually occurs at a later stage. Nail changes are characterized by subungual hyperkeratosis and onycholysis [1, 3].

The pathogenesis is still unclear, several mechanisms have been proposed. One leading theory suggests that tumor-secreted growth factors, such as epidermal growth factor or transforming growth factor-alpha, may lead to epidermal proliferation and hyperkeratosis. Alternatively, autoimmune responses triggered by tumor antigens might result in cutaneous inflammation through molecular mimicry or epitope spreading [5].

Management of Bazex syndrome relies predominantly on treating the underlying neoplasm. In some cases, dermatologic symptoms regress entirely with tumor remission, highlighting the paraneoplastic nature of the condition. However, when curative treatment is not feasible, as in this case due to metastatic disease, symptomatic therapies such as Steroids,

both topical and systemic, Oral retinoids, PUVA therapy may offer partial relief. In addition, other topical ointments reported include zinc ointment, emollients, salicylic acid, keratolytics, itraconazole, fluconazole, vitamin D analogues, and antibiotics [6].

This case underscores the importance of considering Bazex syndrome in the differential diagnosis of recalcitrant erythematous and scaly eruptions, particularly in elderly patients with a known or suspected malignancy. Early dermatologic referral and skin biopsy can contribute to prompt recognition and may even facilitate earlier detection of hidden tumors, potentially improving prognosis.

4. Conclusion

Bazex paraneoplastic acrokeratosis, though rare, serves as a valuable clinical clue for underlying malignancy. Dermatologists and oncologists should maintain a high index of suspicion when encountering treatment-resistant erythematous and scaly lesions, especially in elderly or high-risk individuals. This case underscores the need for interdisciplinary collaboration to ensure timely diagnosis and management of associated cancers.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declared no potential conflicts of interest.

Statement of informed consent

The patient in this manuscript has given written informed consent to the publication of the case details and clinical images.

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