Acrokeratosis paraneoplastica (Bazex syndrome) as the Presenting Sign of Pancreatic Adenocarcinoma

Authors: Luke Horton, BA[1], Lisa Bedford, MD[1,2], Steven Daveluy, MD[1,2]

1: Wayne State University School of Medicine: 540 E Canfield St, Detroit, MI, 48201, USA

2: Department of Dermatology, Wayne State University School of Medicine, 18100 Oakwood Blvd Ste 300 Dearborn, MI, 48124, USA

SYNOPSIS

- Acrokeratosis paraneoplastica (Bazex syndrome) is a paraneoplastic condition characterized by acral psoriasiform plaques affecting the nose, ears, hands, and feet.
- It is commonly associated with squamous cell carcinoma (SCC) of the upper aerodigestive tract and lung, adenocarcinoma of the lung, colon, and gastrum, and lymphomas.[1]
- Lesions are typically refractory to treatment, though spontaneous remission is usually observed following tumor clearance.
- Here, we describe the second reported case of Bazex syndrome in the setting of pancreatic adenocarcinoma and the first such case in a patient of African ancestry.

OBJECTIVE

- Bazex syndrome presents with symmetric erythematous psoriasiform plaques in an acral distribution with a predilection for the nose, ears, hands, and feet. African American patients may present with hyperpigmentation rather than the erythema.
- Bazex syndrome is a paraneoplastic syndrome presenting most commonly with SCC of the oropharynx and lung as well as with adenocarcinoma of the lung, stomach and colon. It may rarely be associated with other cancer types (as in this case) and suspicion should warrant further investigation to rule out an internal malignancy.
- Bazex syndrome may present similarly to other inflammatory dermatologic conditions. Sudden onset, associated systemic symptoms, and resistance to standard treatments should provoke clinicians to evaluate for internal malignancies.

CASE PRESENTATION

- A 74-year-old African American male with a past medical history of hypertension presented with a three-week history of an acute-onset, scaly, pruritic dermatitis on his hands and feet that did not improve with over-the-counter creams and moisturizers.
- The patient denied fever, chills, nausea, vomiting, and weight loss. Review of systems was otherwise negative.
- Family history was negative for similar rashes or malignancy.
- Physical exam demonstrated hyperpigmented hyperkeratotic fissured plaques over the ventral fingers extending to the dorsal surfaces, especially the periungual skin (Figure 3). Ventral toes were also hyperkeratotic (Figure 1). Slight hyperpigmentation and hyperkeratosis of the helical rims and conchal bowls was also noted (Figure 2).
- Due to the concern for underlying malignancy, a chest x-ray was ordered which demonstrated bibasilar opacities.
- CT scan of chest, abdomen, and pelvis noted a pancreatic mass, and biopsy revealed adenocarcinoma.
- The primary therapy was initiation of treatment of the underlying malignancy. Ammonium lactate lotion and triamcinolone cream were recommended for the dermatitis.
- The patient was then lost to follow up

RESULTS

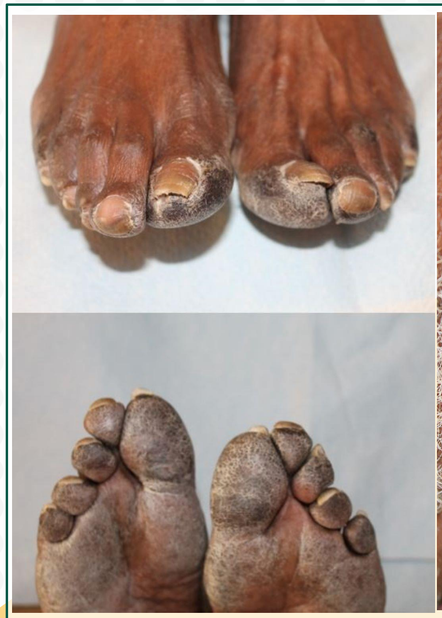

Figure 1

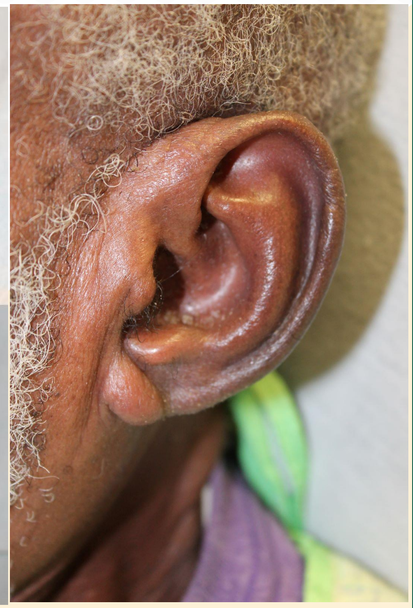

Figure 2

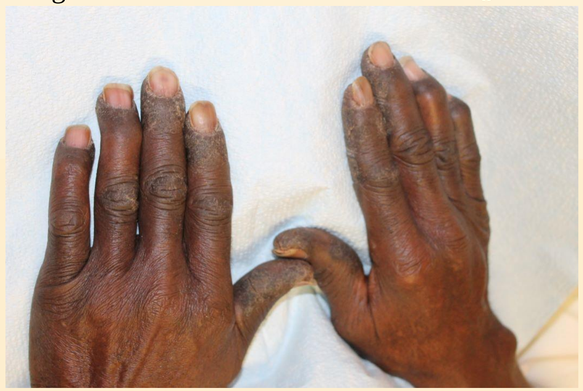

Figure 3

Figure 1: Hyperpigmented, hyperkeratotic fissured plaques over the ventral toes with thickening of the toe nail plate.
Figure 2: Slight hyperpigmentation and hyperkeratosis of the helical rim and conchal bowl.
Figure 3:. Hyperpigmented hyperkeratotic fissured plaques over the ventral fingers extending slightly to dorsal fingers, especially the periungual skin.

DISCUSSION AND CONCLUSION

Bazex syndrome typically presents prior to the discovery of an internal malignancy and is often misdiagnosed as an inflammatory dermatitis that does not respond to treatment.[1] The exact mechanism of Bazex syndrome is unknown. One hypothesis is that growth factors (e.g., epidermal growth factor or insulin-like growth factor) produced by tumor cells induce keratinocyte proliferation. Another is that autoreactive T-cells provoked by tumor cells lead to cross reactivity with antigens in the skin. Zinc and vitamin A deficiency from increased utilization by tumor cells may also result in the acral psoriasiform lesions.[2,3]

Bazex syndrome typically presents with symmetric violaceous psoriasiform lesions in an acral distribution, although asymmetry may occur early in the disease course, and African American patients may show hyperpigmentation rather than erythema.[1] Patients often have involvement of the nail with erythema, swelling, and thickening of the perionychium along with nail dystrophy and subungual hyperkeratosis. The nail findings may resemble onychomycosis but will not yield positive fungal cultures. Lesions may be asymptomatic or present with intense pruritus or pain.[1] Atypical presentations include vesicles or bullae predominantly affecting the digits – which may lead to a misdiagnosis of a blistering disease such as bullous pemphigoid or epidermolysis bullosa acquisita.[1,3]

The histopathologic findings are non-specific and include hyperkeratosis, parakeratosis, acanthosis, spongiosis, dyskeratotic keratinocytes, and perivascular inflammatory infiltration. In Bazex syndrome presenting with blistering, there is a negative direct immunofluorescence, unlike that seen in bullous pemphigoid or pemphigus vulgaris.[1,3]

The most effective therapy for Bazex syndrome is treatment of the underlying malignancy, with spontaneous regression of skin lesions after tumor excision, although the nail changes typically persist. Disease activity tends to correlate with tumor response and relapse, worsening and improving concomitantly with tumor burden.[1] While uncomfortable for the patient, the skin lesions can be a useful surrogate as a marker for response to treatment. Unfortunately, the lesions do not respond to conventional dermatologic therapy and the utility of topical therapy is limited to symptom control. Clinical improvement has been shown in isolated cases with vitamin D3, etretinate, PUVA, salicylic acid, or topical steroids.[1,4–7]

We present the second known case of Bazex syndrome in association with pancreatic adenocarcinoma and the first such case in an African American patient. To our knowledge, only one other case associated with pancreatic adenocarcinoma has been reported.[2] As Bazex syndrome mimics many other dermatoses (as above), a high level of suspicion for this diagnosis should be maintained, especially when associated with an acute onset and systemic symptoms such as cough, shortness of breath, weight loss, and night sweats. It is essential that clinicians recognize this presentation, as early diagnosis and treatment of the associated malignancy could greatly impact prognosis.

REFERENCES

1.Räßler F, Goetze S, Elsner P. Acrokeratosis paraneoplastica (Bazex syndrome) - a systematic review on risk factors, diagnosis, prognosis and management. J Eur Acad Dermatol Venereol JEADV 2017;31:1119–36. doi:10.1111/jdv.14199
2. Iwanami K, Nakai M, Kitamura K. Bazex Syndrome. Intern Med 2018;57:1501–2. doi:10.2169/internalmedicine.9771-17
3 Humphrey SR, Hussain AS, Chandran R, et al. Acute Onset of Acrokeratosis Paraneoplastica (Bazex Syndrome). JAMA Dermatol 2015;151:677–8. doi:10.1001/jamadermatol.2014.5622
4. Martin RW, Cornitius TG, Naylor MF, et al. Bazex's Syndrome in a Woman With Pulmonary Adenocarcinoma. Arch Dermatol 1989;125:847–8. doi:10.1001/archderm.1989.01670180119025
5. Wishner AJ, Lynfield Y. Psoriasiform Dermatitis in a Cachectic Man. Arch Dermatol 1988;124:1853–4. doi:10.1001/archderm.1988.01670120069014
6. Wishart JM. Bazex paraneoplastic acrokeratosis: a case report and response to Tigason. Br J Dermatol 1986;115:595–9. doi:10.1111/j.1365-2133.1986.tb05770.x
7. Gill D, Fergin P, Kelly J. Bullous lesions in Bazex syndrome and successful treatment with oral psoralen phototherapy. Australas J Dermatol 2001;42:278–80. doi:10.1046/j.1440-0960.2001.00535.x