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# Acrokeratosis paraneoplastica: Bazex syndrome

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**Abstract**
Bazex syndrome, or acrokeratosis paraneoplastica, is a cutaneous paraneoplastic syndrome characterized by psoriasiform lesions associated with, usually, a squamous cell carcinoma of the upper aerodigestive tract. We present a case of Bazex syndrome associated with metastatic cervical squamous cell carcinoma with an unknown primary. The features of the condition are discussed in the light of current knowledge.

**Key words: Bazex Syndrome; Carcinoma, squamous cell**

## Case report

A 71-year-old male Caucasian presented with an 18-month history of pruritus, initially of his chest but subsequently his hands and feet. He had then developed a dry scaly rash. This had been present for a year on the bridge of his nose, and for six months on his hands and feet. More recently he had developed dry patches on his lower legs and back. He was a heavy smoker of 20 cigarettes a day but had no other significant medical history. On examination his hands were very dry with psoriasiform scaling of the flexor surfaces of the fingers. His nails were ridged with ragged cuticles (Figure 1). The toenails showed similar changes. He also had a few psoriasiform patches on his lower shins and over his buttocks. Areas of hyperpigmentation were present over the bridge of the nose (Figure 2) and on the helices of both ears. Suspicion of an underlying malignancy was raised and a 3 cm mass in the lower right neck was located. A fine needle aspirate of this mass showed squamous cell carcinoma. Full ENT examination revealed no primary in the upper aerodigestive tract and subsequent panendoscopy and multiple biopsies likewise failed to identify a primary site. Chest CT scanning showed enlarged mediastinal nodes but flexible bronchoscopy could not identify a lung primary. He was consequently treated by radiotherapy to these node groups. This resulted in a marked improvement in the rash on his fingers although the nail changes were slower to improve. Histological examination of skin from his finger showed marked acanthosis, hyperkeratosis and focal parakeratosis, with early hydropic degeneration along the basal layer and lymphocytic infiltration of the dermis.

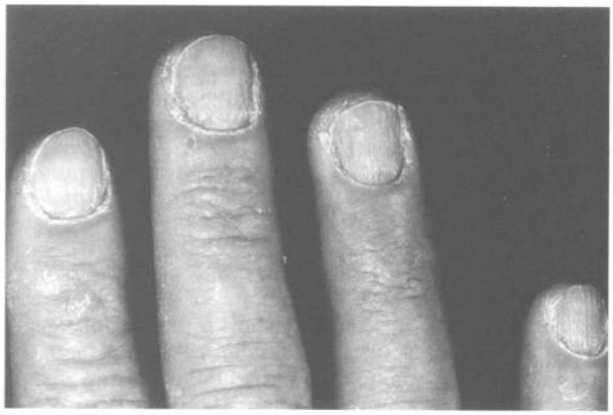

FIG. 1
Ridged finger nails with ragged cuticles.

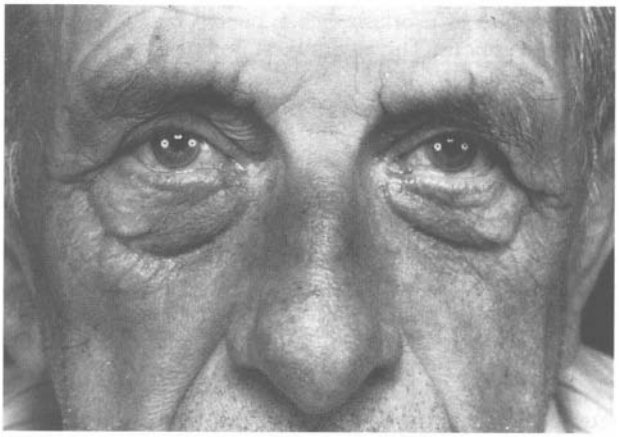

FIG. 2
Hyperpigmentation over the bridge of the nose.

## Discussion

Bazex *et al.* reported the first case of acrokeratosis paraneoplastica in association with a squamous cell carcinoma of the tongue in 1965 (Bazex and Griffiths, 1980). Since then over 90 cases have been reported with the vast majority coming from France. Only five cases have been reported from the United Kingdom (Douglas *et al.*,

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1991; Handfield-Jones *et al.*, 1992; Halpern *et al.*, 1995). The condition presents typically in a male over 40 years of age with cervical metastases from a lung or upper aerodigestive tract carcinoma or from an unknown primary site. In the largest review of the condition (Bolognia *et al.*, 1991), 52 per cent of patients with the syndrome had an identified head and neck primary whilst 15 per cent of patients had an occult primary with cervical metastases. However, a quarter of patients do not present with cervical metastases, these often being patients with lung, oesophageal or infra-diaphragmatic primary sites.

The cutaneous changes of Bazex syndrome are divided into three stages. Initial psoriasiform changes affect the tips of the fingers and toes. This may be associated as in our patient with scaling of the nose or ears at this early stage. The second stage sees spread down the digits to the palms and soles. In the third stage there is extension to the limbs and trunk. This is suggested to be linked to advanced disease stage, as was the case here. Atypical features including pruritus (as in our case), present in 18 per cent of cases, sterile paronychia and hyper- or hypopigmentation (Bolognia *et al.*, 1991). Hyperpigmentation suggests a possible link with acanthosis nigricans. Early recognition of the condition in Stage 1 may allow more effective treatment of the underlying tumour to be undertaken.

The histological skin changes are a mixture of non-specific changes and the specific changes of more common disorders such as psoriasis, lichen planus, cutaneous lupus or drug eruptions. The commonest findings are hyperkeratosis, acanthosis, parakeratosis, dyskeratotic keratinocytes and a mononuclear perivascular infiltrate. Both the epidermis and dermis are involved (Lever and Schaumburg-Lever, 1990). This case shows typical but non-specific changes present in the syndrome.

The mechanism of development of these cutaneous changes in response to an underlying malignancy is unknown. Suggested mechanisms include common antigens shared by skin and the tumour, with subsequent activation of the cellular immune system against skin, or the secretion of tumour-originating growth factors. (Bolognia *et al.*, 1991). The suggestion of cellular immunity is supported by observation of the histological similarities between Bazex syndrome and lichen planus, and experimental evidence of induction of lichen planus in mice following clonal T-cell injection (Saito *et al.*, 1986). Some histological findings are indicative of an immune-mediated attack on basal cells (Hara *et al.*, 1995) and the finding of an IgG band at the basement membrane with direct immunofluorescence is likewise supportive (Pecora *et al.*, 1983). The argument for tumour growth factors is supported by knowledge of other paraneoplastic disorders. In acanthosis nigricans expression of transforming growth factor alpha (TGF-alpha) and enhanced expression of epidermal growth factor (EGF) receptors have been found. The EGF receptor is the common ligand for both EGF and TGF-alpha, and TGF-alpha is highly mitogenic for keratinocytes. These findings suggest that factors released by a tumour may play an important role in the pathogenesis of hyperproliferative paraneoplastic disorders (Lucker and Steijlen, 1995).

The skin lesions tend to improve if the underlying malignancy is successfully treated and tend to relapse with tumour relapse, although the temporal relationship is often inexact. This is similar to the development of cutaneous lesions some time before the underlying tumour becomes apparent. The ideal treatment, therefore, is that of the underlying tumour, although corticosteroids (Martin *et al.*, 1989) and retinoids (Wishart, 1986) have been successful in the treatment of skin lesions.

Better and earlier identification of these patients may allow what are often untreatable tumours at presentation to be diagnosed earlier with the hope of curative rather than palliative treatment. In addition, recognition of this syndrome by head and neck surgeons may allow identification of patients with, in particular, Stage 1 disease that may have gone unnoticed. This in turn may help to solve the puzzle of development of Bazex syndrome.

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