Acanthosis nigricans associated with alveolar cell carcinoma

D G MENZIES, J CHOO-KANG, P K BUXTON, I W CAMPBELL

From the Victoria Hospital, Kirkcaldy, Fife

Acanthosis nigricans is a rare cutaneous manifestation of various diseases, notably malignancy, endocrine disease, genetic abnormality, and drugs.¹ There is hyperpigmentation and hyperkeratotic change in the epidermis of the flexural areas. In cases associated with malignancy the most common cancer is adenocarcinoma but association with lymphoma, sarcoma, and squamous cell carcinoma is documented.² We report a case of acanthosis nigricans and alveolar cell carcinoma, an association not previously recorded.

Case report

A 61 year old retired miner presented with a five month history of itching of the skin and a six week history of progressive dyspnoea on exertion. He denied sputum production, haemoptysis, and wheeze. He had no important past medical history and was taking no medication. He had smoked 20 cigarettes a day for over 40 years.

Physical examination showed hyperpigmented velvety plaques symmetrically distributed in the axilla, groin, and neck (fig 1). His nipples were hyperpigmented and there was hyperkeratosis of his palms and soles. Cervical lymphadenopathy was absent and there was no finger clubbing. There were widespread crepitations in his chest, worse in the upper and mid zones. He had a 4 cm smooth, non-tender hepatomegaly. There were no abdominal masses and rectal examination showed nothing abnormal.

Haemoglobin (16.0 g/dl), electrolyte, and calcium concen-

trations and liver function were normal. The forced expiratory volume in one second was 1.1 litres and forced vital capacity 1.7 l (predicted 2.3 and 3.1 l). The chest radiograph showed diffuse bilateral infiltration, more severe on the left, in the upper and mid zones (fig 2). An isotope liver scan was normal. The barium meal and follow through were normal. Fiberoptic bronchoscopy showed the bronchial tree to be entirely patent and the bronchial mucosa appeared normal. A transbronchial biopsy showed alveolar cell carcinoma.

The patient died four months after presentation. At necropsy the pathologist searched for another primary tumour but none was found outside the chest. Both lungs had areas of firmness suggesting neoplastic replacement and no tumour was seen in the lumen of the bronchi. Histological examination of the lung showed hyperchromatic columnar neoplastic cells growing along the inner surface of the alveoli. Papillary projections of neoplastic cells spread into the alveolar spaces. The alveolar architecture was preserved and the bronchioles were not compressed. There was no spread to hilar lymph nodes. A diagnosis of alveolar cell carcinoma was confirmed, a distant primary having been excluded.

Discussion

The association of acanthosis nigricans and internal malignancy was first recognised by Darier in 1893.³ In a review of 277 cases acanthosis nigricans was associated with adenocar-

Address for reprint requests: Dr I W Campbell, Victoria Hospital, Kirkcaldy, Fife KY2 5AH.

Accepted 20 August 1987

Fig 1 Hyperpigmentation in the left groin.

Fig 2 Chest radiograph at presentation.

cinoma of the stomach in 55%, with other intra-abdominal carcinoma in 17%, and with malignancies at other sites in 26%.⁴ The association with bronchial carcinoma was first reported in 1909.³ Curth *et al*⁶ extensively reviewed the association of pulmonary neoplasms and acanthosis nigricans. Of the five cases they described, three were adenocarcinoma and two undifferentiated carcinoma within the lung. To date eight cases of adenocarcinoma of the lung and five cases of squamous carcinoma of the lung have been reported in association with acanthosis nigricans.⁴ Our case is the first in which acanthosis nigricans was associated with alveolar carcinoma.

We thank Dr W S Stockwell, consultant pathologist at the Victoria Hospital, Kirkcaldy, for his advice on the histology, and are grateful to Mr James Brown of the medical photography department for the illustrations.

References

- 1 Brown J, Winkelmann RK. Acanthosis nigricans: a study of 90 cases. *Medicine (Baltimore)* 1968;**47**:33–52.
- 2 Gantam HP. Malignant acanthosis nigricans associated with squamous cell carcinoma of the bronchus. *Ann Thorac Surg* 1969;**7**:481–5.
- 3 Pollitzer S. Acanthosis nigricans: a symptom of a disorder of the abdominal sympathetic. *JAMA* 1909;**53**:1369–73.
- 4 Rigel DS, Jacobs MI. Malignant acanthosis nigricans: a review. *J Dermatol Surg Oncol* 1980;**6**:923–7.
- 5 Galatz P de. Contribution a l'étude clinique et histopathologique de la dystrophie pappillaire et pigmentaire (acanthosis nigricans) associe a un cancer pulmonaire. *Ann Dermatol Syph* 1914;**5**:321–43.
- 6 Curth HO, Hilberg AW, Machacek GF. The site and histology of the cancer associated with malignant acanthosis nigricans. *Cancer* 1962;**15**:364–82.