

phototoxicity is due to the substance itself, a photoproduct, or a metabolite is not yet established (3, 8).

One of our patients, who wore goggles, did not show any pigmentation in this area. Goggles normally filter out the UVB component of sunlight. In this case the patient's goggles were made of plastic. Measuring for transmission at 300, 320, 340, 360 and 380 nm revealed that very little UV-radiation penetrated below 360 nm. Thus, pigmentation is probably due to wavelengths below 360 nm.

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The Heterogeneity of Tumours Associated with Epidermodysplasia verruciformis

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A patient with epidermodysplasia verruciformis also had lesions of seborrheic keratosis, irritated seborrheic keratosis, and intraepidermal and invasive squamous cell carcinoma as well as infiltrating squamous cell carcinoma associated with eccrine poroma. Electron microscope studies revealed intranuclear virus particles. Immunoperoxidase studies using rabbit anti-bovine papilloma virus serum showed a positive reaction. (Received May 5, 1986.)

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Epidermodysplasia verruciformis (EV), often associated with in situ and invasive squamous cell carcinoma, is now generally recognized to have a viral etiology (1). The pathogenic agent is considered to be human papilloma virus (HPV) (2): HPV 3 has been found in the benign flat lesions of EV and HPV 5 in lesions showing malignant transformation (3, 4, 5). Patients with both types of viruses have also been reported (3, 5).

We hereby present a case of malignant transformation of EV in which one of the lesions showed infiltrating squamous cell carcinoma associated with eccrine poroma.

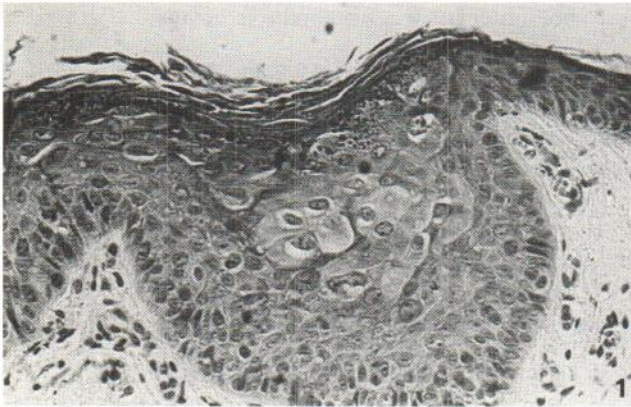
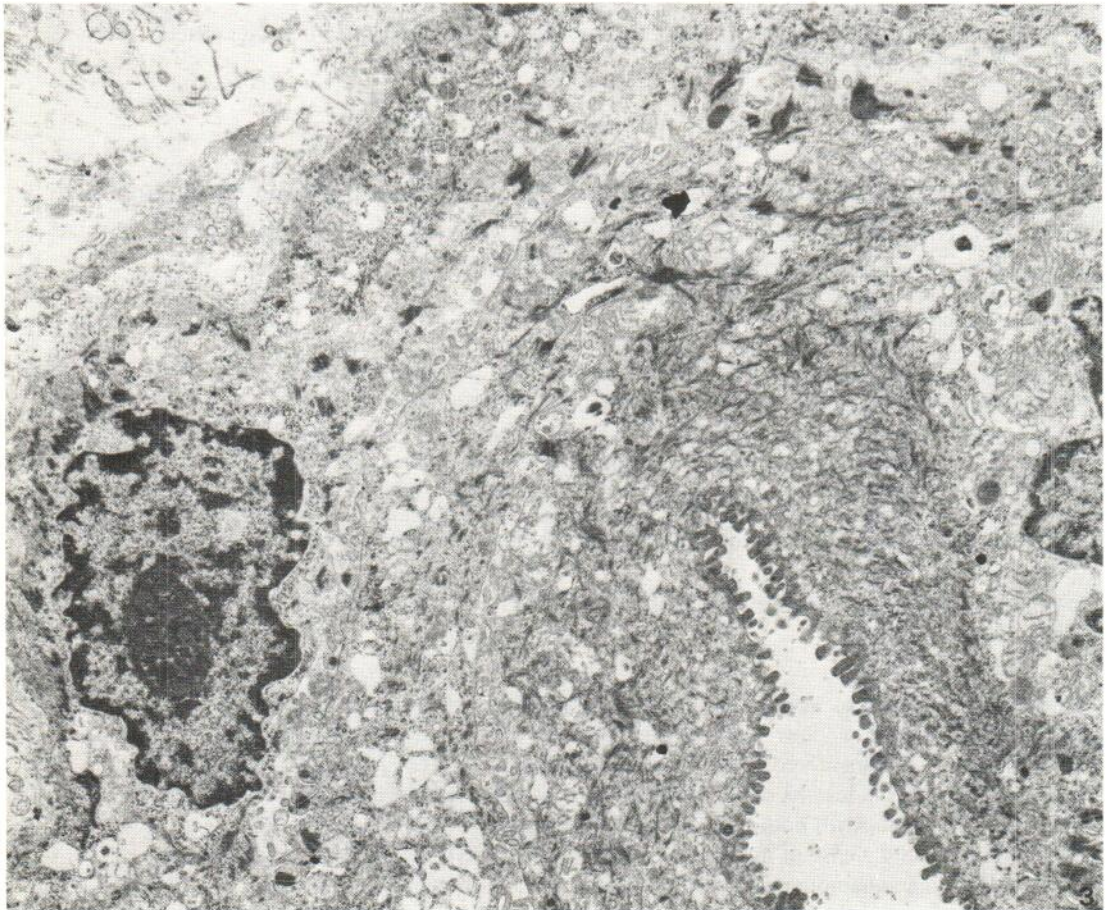
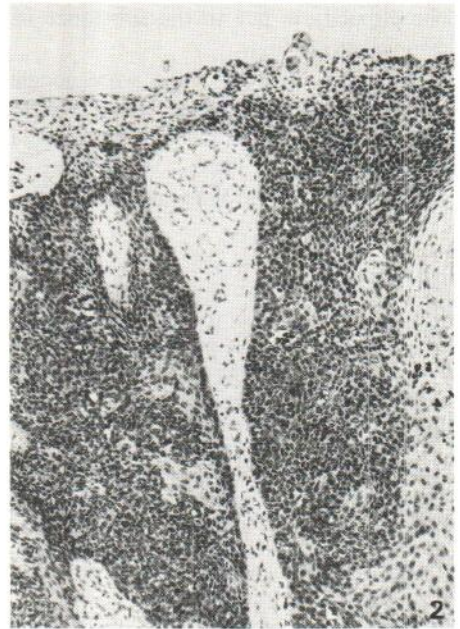


Fig. 1. Biopsy of dorsal surface of hand. EV lesion with large pale cells (EV cells). Hematoxylin-eosin, $\times 190$.

Fig. 2. Chest wall lesion. Tumour composed of cords of eccrine poroma adjacent to squamous cell carcinoma. Hematoxylin-eosin, $\times 150$.

Fig. 3. Eccrine poroma, showing cell with a few short villi and abundant organelles in the cytoplasm. $\times 2700$.



CASE REPORT

A 46-year-old male reported that since childhood there had been well-defined flat, round or polygonal papules measuring 2–10 mm in diameter dispersed on the dorsal surface of both hands, at the base of his neck, sternum and shoulders.

Histological Findings

Dorsal surface of hand. Typical epidermodysplasia verruciformis lesions were found (Fig. 1).

Chest wall. The four biopsies showed four different kinds of lesions: 1) seborrheic keratosis; 2) intraepidermal squamous cell carcinoma (Bowen's disease); 3) infiltrating squamous cell carcinoma; 4) eccrine poroma (Fig. 2).

Shoulder area. These three biopsies showed three different kinds of lesions: 1) an irritated seborrheic keratosis; 2) intraepidermal squamous cell carcinoma (Bowen's disease); 3) infiltrating squamous cell carcinoma.

Electron microscope study of the eccrine poroma revealed two types of cells: there were epithelial cells having a large oval nucleus, around which were a few small thin bands of tonofilaments, and a small nucleus. Cytoplasm was clear with a few organelles and abundant glycogen granules. Between these cells there was interdigitation of the cytomembranes. The second type of cell had an undulated nucleus, abundant intracytoplasmic organelles, mitochondria, rough endoplasmic reticulum and aggregates of glycogen granules as well as a few short villi in one pole of the cell (Fig. 3). In a few of these cells there were intracytoplasmic cavities with a few short microvilli protruding into the lumen.

Structures corresponding to viruses were found within the cell nuclei of the corneal layer in the biopsies obtained from the dorsal part of the hand.

Immunoperoxidase study

The typical lesions of EV from the dorsal part of the hands and the infiltrating squamous cell carcinoma of the chest wall were examined by the PAP method using rabbit anti-bovine papilloma virus serum (DAKO, Cal.). The upper epidermis of the EV lesion showed a few positive nuclei but no reaction was seen in the EV cells.

DISCUSSION

The malignant transformation in EV lesions has been described as consisting of intraepithelial Bowen-like changes and/or invasive squamous cell carcinoma (6, 7). In the present case there was in addition to the invasive squamous cell carcinoma a type of carcinoma having two distinct components; typical squamous cell carcinoma and an eccrine poroma. Eccrine poroma is a tumour arising from the portal epithelium of the epidermal sweat gland unit (8). It is conceivable, though not yet proved, that HPV infection of the epidermis would simultaneously affect the intraepidermal portal epithelium. The electron microscope study revealed the numerous short villi, intracytoplasmic lumina, clusters of glycogen granules and tonofilaments listed as the criteria for this type of tumour by Hashimoto & Kanzaki (9).

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A Preliminary Study of the Effect of 11 α -Hydroxyprogesterone on the Hair Growth in Men Suffering from Androgenetic Alopecia

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van der Willigen AH, Peereboom-Wynia JDR, van Joost Th, Stolz E. A preliminary study of the effect of 11 α -Hydroxyprogesterone on the hair growth in men suffering from androgenetic alopecia. *Acta Derm Venereol (Stockh)* 1987; 67: 82–85.

Ten male patients suffering from androgenetic alopecia were treated during one year with a lotion containing 1% 11 α -hydroxyprogesterone. Eight untreated patients served as control group. The parameters used were hair root status, hair shaft diameter of anagen hair roots and number of hairs with a diameter <40 μ m. After therapy the cranial region showed an increase in the number and mean hair shaft diameter of anagen hair roots and in the number of hair roots with a diameter <40 μ m. The number of hair roots in catagen/telogen decreased, the number of dysplastic/dystrophic hair roots remained unchanged. After therapy the cranial region in the controls showed a decrease in number and mean hair shaft diameter of anagen roots, and in the number of dysplastic/dystrophic hair roots. There was an increase in number of hair roots in catagen/telogen and of hair roots with a diameter <40 μ m. The results warrant the conclusion that the abovementioned therapy would seem to be effective in men suffering from androgenetic alopecia. *Key words: Alopecia androgenetica; Hair roots status; Hair shaft diameter.* (Received March 3, 1986.)

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Androgenetic alopecia (AA) is the most common form of hair loss in men. An effective therapy for men suffering from AA has not yet been defined. In our opinion a potential therapeutic agent should fulfil the following criteria: local applicability, low toxicity and cosmetic acceptability. These criteria would seem to be met by 11 α -hydroxyprogesterone, a synthetic anti-androgen (1).

The aim of our study was to establish the effect of once-daily application of a lotion containing 1% 11 α -hydroxyprogesterone on the hair growth cycle in men suffering from AA, using hair root status, hair shaft diameter of anagen hair roots and number of hairs with a diameter <40 μ m as parameters.

PATIENTS AND METHODS

Eighteen patients were chosen at random on the basis of a trichogram consistent with AA (more than 20% telogen and/or dysplastic/dystrophic hair roots in the cranial region). Ten patients (mean age 24