## Eruptive Multiple Keratoacanthomas of the Extremities

*Sir*,

Multiple keratoacanthomas represent a heterogeneous group of uncommon, inherited or acquired disorders in which keratoacanthomas, varying in number and size, develop in a localized or generalized pattern, sometimes involving the mucosae, and are occasionally associated with malignancy or immunosuppression (1).

Eruptive keratoacanthoma is a rare variant of multiple keratoacanthomas. First described by Grzybowski in 1950 (2), it is characterized by the synchronous appearance of numerous tiny keratoacanthomas (3). We present a case of multiple keratoacanthomas of the eruptive type, with unusual clinical presentation, successfully treated with low doses of oral isotretinoin.

A 67-year-old female was referred to the outpatient clinic of our hospital with a 3-year history of a papular eruption on the extremities. There was no family history of a similar condition, no history of exposure to tar, but she had been excessively sun-exposed during recreational activities. She reported hypercholesterolaemia, mild hypertension and osteoarthritis.

Lesions initially appeared on the forearms of the patient during one summer, resolved without scarring during the following winter and reappeared in crops the next summer. This time they were located not just on the forearms, but also on the dorsal aspect of the hands, the anterior aspect of the shins and the popliteal region as well (Fig. 1a, b). A mild pruritus was present. She had received long-term treatment with topical steroids, without clinical improvement, that resulted in Bateman's purpura. However, some of the lesions regressed spontaneously after several months.

Physical examination revealed numerous, firm, discrete, flesh-coloured to erythematous papules, 3–7 mm in diameter, symmetrically located on the forearms, hands and legs. Head, neck and trunk were unaffected. Some of the papules had a horny plug in the centre. Lesions showed no tendency to coalesce. Mucous membranes were normal.

Laboratory investigation, including routine haematological and chemistry analysis, chest X-rays and CT-scan of the abdomen, was within normal limits. Evaluation of peripheral lymphocytes showed a decrease of the CD19+ B cells (160 cells/μl, expected range 500–1500) and of the CD4+ cells (1378 cells/μl, expected range 1700–2800) resulting in a decreased CD4/CD8 ratio (1.4, expected range 1.5–2.9). White blood cell count was 6000 cells/μl, 52.2% of which were lymphocytes.

Two punch biopsies from forearm lesions were performed. Examination by light microscope of specimens stained with haematoxylin-eosin disclosed findings consistent with keratoacanthoma's diagnosis, i.e. irregular epidermal proliferations forming keratin-filled invaginations or entrapping keratin masses and descending into the dermis. Hyperkeratosis and acanthosis were observed in the surrounding epidermis (Fig. 2). Eosinophils were found among the chronic inflammatory infiltrate. It is noteworthy that the lesion recurred at a biopsy site (Koebnerization).

The patient received isotretinoin 0.75 mg/kg daily, per os, for 3 months. A significant clinical improvement was noted on 1- and 3-month follow-up, without side effects. Most of the lesions regressed and no new lesions appeared.

The appearance of the lesions in our elderly patient is an unusual clinical presentation of eruptive keratoacanthoma, with fewer and larger non-coalescing lesions, seen only on the extremities. Our case shares some features in common with the patient reported by Green et al. (4), in which keratoacanthomas were localized on the upper extremities of an elderly, heavily sun-exposed individual.

Classification of multiple keratoacanthomas is difficult and is still a subject of controversy. Although there is a considerable degree of overlap and several unclassified cases, some morphologic or syndromic types have been identified (1).

A wide range of internal malignancies has been reported in association with multiple keratoacanthomas (5). It is not clear whether this coexistence is coincidental or represents a true association. Therefore, detailed evaluation of every patient with multiple keratoacanthomas for malignancy is warranted.

Multiple keratoacanthomas are refractory to treatment. Limited in number, lesions can be treated with electrodessication and curettage, cryotherapy, radiotherapy or intralesional administration of corticosteroids, bleomycin, fluoracil or podo-

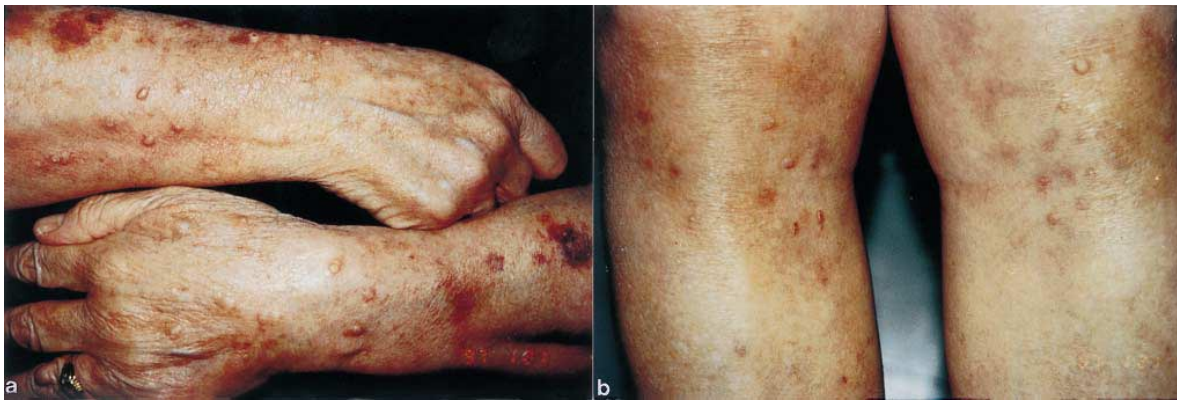


*Fig. 1.* Several follicular papules of the forearms and hands, and of the poplietal region, some with a central horny plug. Bateman's purpura can also be observed.

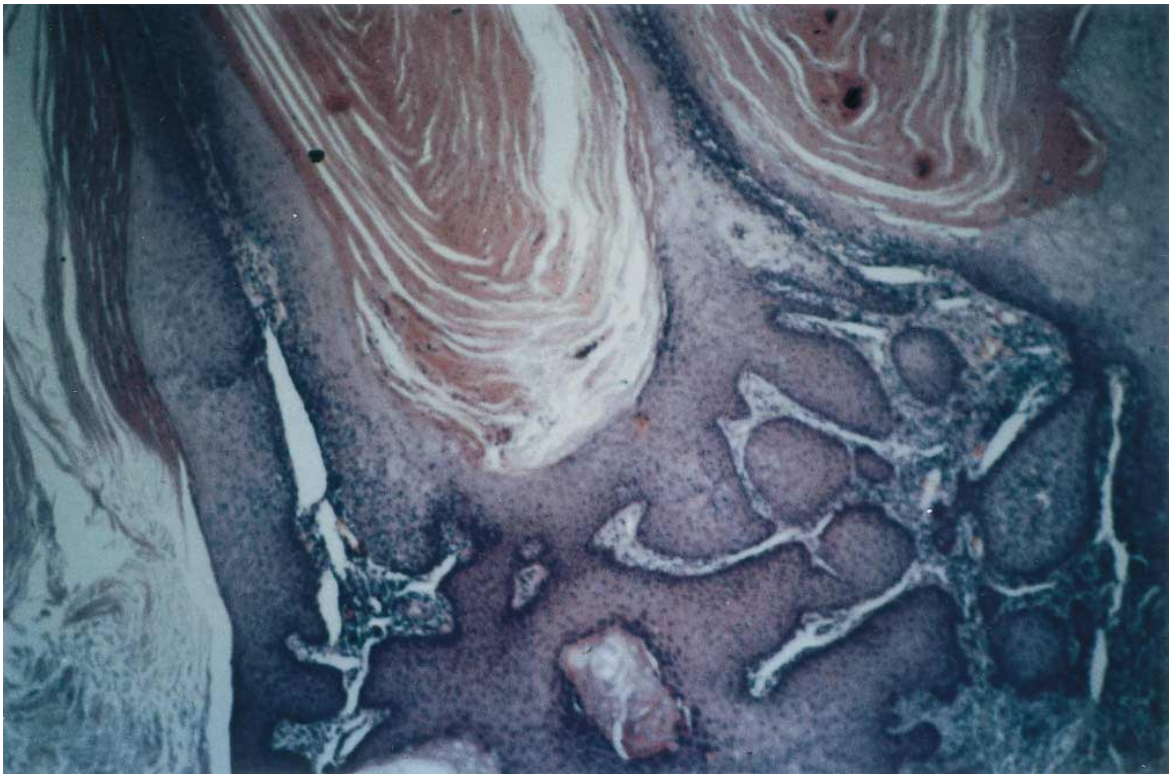

*Fig. 2.* Histology of a lesion exhibiting typical features of keratoacanthoma. Irregular epidermal hyperplasia forming keratin-filled invaginations. Hyperkeratosis with parakeratosis and orthokeratosis. Acanthosis of the epidermis.

phylin (6). Systemic therapy with isotretinoin or etretinate has shown good results, although some of the smaller lesions may remain unaffected (7, 8). Oral isotretinoin for 3 months has been particularly effective in our patient. Methotrexate and, recently, cyclophosphamide have also been employed with encouraging results and may be used as alternative therapeutic modalities in cases resistant to usual treatment (9, 10).

## REFERENCES


1. Schwartz RA. Keratoacanthoma. J Am Acad Dermatol 1994; 30: 1–19.
2. Grzybowski M. A case of peculiar generalized epithelial tumours of the skin. Br J Dermatol Syph 1950; 62: 310–313.
3. Jaber PW, Cooper PH, Greer KE. Generalized eruptive keratoacanthoma of Grzybowski. J Am Acad Dermatol 1993; 29: 299–304.
4. Green WS, Underwood LJ, Green R. Multiple keratoacanthomas on upper extremities. Arch Dermatol 1977; 113: 512–513.
5. Snider LB, Benjamin DR. Eruptive keratoacanthoma with an internal malignant neoplasm. Arch Dermatol 1981; 117: 788–790.
6. Hendricks WM. Sudden appearance of multiple keratoacanthomas three weeks after thermal burns. Cutis 1991; 47: 410–412.
7. Street ML, White JW, Gibson LE. Multiple keratoacanthomas treated with oral retinoids. J Am Acad Dermatol 1990; 23: 862–866.
8. Blitstein-Willinger E, Haas N, Nurnberger F, Stuttgen G. Immunological findings during treatment of multiple keratoacanthoma with etretinate. Br J Dermatol 1986; 114: 109–116.
9. Kestel JL Jr, Blair DS. Keratoacanthoma treated with methotrexate. Arch Dermatol 1973; 108: 723–724.
10. Carter Grine R, Hendrix JD, Greer KE. Generalized eruptive keratoacanthoma of Grzybowski: response to cyclophosphamide. J Am Acad Dermatol 1997; 36: 786–787.


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