described a solitary trichoepithelioma with similarly enlarged ERs, which in addition contained banded, electron-dense structures. In the case presented here, dilated rER with banded structures have been observed for the first time in a case of multiple trichoepithelioma. The findings in our case, i.e. the diameter of the enlarged rERs, the width of the banded structures and their arrangement in a periodicity of 250 nm show a striking similarity to the findings of Ono et al. (7).

Dilation of the rER is a common finding in cells of normal tissues during regeneration, repair, or during increased secretion, and is indicative of a state of high cellular activity. Under pathologic conditions, dilation of the rER may be found in the Ehlers-Danlos syndrome (8) or in diseases with rapid collagen synthesis such as scleroderma (9). Deposition of electron-dense structures in dilated rER has been noted in tumour cells with impaired transport mechanisms causing a functional imbalance between production and elimination followed by accumulation of excess material (10). In view of these findings, a probable relationship between the banded structures in trichoepithelioma and the nodular accumulations of connective tissue and material resembling lamina densa found in this tumour may be suspected. The chemical composition of the banded structures has been claimed to be an 'abnormal protein, perhaps lipoprotein or glycoprotein' (11). Nevertheless their exact chemical composition and their etiologic or diagnostic significance call for further investigation.

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Adult T Cell Leukemia Accompanied by Annular Elastolytic Giant Cell Granuloma

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We report a 74-year-old Japanese patient with adult T-cell leukemia who concurrently developed annular elastolytic giant cell granuloma. Initially, itchy granulomatous lesions developed on his face, nape of the neck and dorsa of the hands, but gradually erythematous plaques appeared on the back and lower limbs. The histology of the granulomatous lesions revealed coexistence of an epithelioid cell granuloma with giant cells that phagocytosed elastic fibres in the dermis and Pautrier's microabscesses in the overlying epidermis. Subsequent sequential histological studies of an erythematous plaque revealed the development of granulomatous changes in pre-existing lymphomatous lesions. Laboratory data revealed the presence of antibody to human T cell leukemia/lymphoma virus I and 14200 white cells/mm² in the peripheral blood with 2% atypical lymphocytes which eventually amounted to 30%, one month before his death. Key words: Ectretinate; PUVA.

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Cutaneous T cell lymphomas (CTCL) are neoplasms of mature T cells that constitute Sézary syndrome, mycosis fungoides (MF) and some cases of lymphomatoid papulosis. Wantzin et al. (1) reported that 36 of 315 patients (11.4%) with CTCL had specific antibodies reactive to human T cell leukemia virus type I (HTLV-I). Their findings might suggest that a retrovirus related to HTLV-I plays an important role in the pathogenesis of CTCL. Recently, however, cases of HTLV-I infection have been proposed to be separate from CTCL (2).

Annular elastolytic giant cell granuloma (AEGCG), which has a number of appellations, including actinic granuloma, is characterized by an annular erythema that shows a zone of consumption of elastic fibres by giant cells and histiocytes. Such granulomatous features have not been reported even in cases of granulomatous MF (3–8). Recently, we observed a patient who developed AEGCG in his skin lesions of adult T cell leukemia (ATL).

**CASE REPORT**

A 74-year-old Japanese man visited our hospital with numerous pruritic red papules of 8 months’ duration on the dorsa of both hands, face, nape of the neck and one thigh. He had been living in a Pacific coastal district near Ofunato where there are many ATL antibody carriers. Physical examination revealed numerous red papules that were arranged in an annular fashion in the above-mentioned areas and erythematous plaques on the back and thigh (Figs. 1, 2). Most of the laboratory data were within normal ranges except for an increased number of white blood cells (14,200/μm³ with 2% atypical lymphoid cells) and the level of serum lactate dehydrogenase, 691 IU/l (normal range, 200–424). Antibody to HTLV-I was positive. During the following one month the granulomatous skin changes gradually involved the formerly erythematous plaques, with an increase in the number of atypical lymphocytes in the peripheral blood that increased, up to 30% of whole white cells.

**Histopathology**

All three biopsy specimens obtained from the granulomatous lesions showed focal exocytosis of single or grouped atypical mononuclear cells into the epidermis, and various numbers of scattered or aggregated epithelioid histiocytes with foreign body type giant cells in the superficial and mid-dermis (Fig. 3). Atypical mononuclear cells with large hyperchromatic nuclei were also found in the dermis. Elastica-Masson stain revealed the absence of elastic fibres in the superficial and mid-dermis occupied by epithelioid histiocytes and giant cells which were found to phagocytose elastic fibres.

On the other hand, a biopsy specimen taken from the erythematous plaque on the back showed Pautrier's microabscesses in the epidermis and a slight dermal infiltrate of atypical mononuclear cells. Another biopsy specimen taken from this infiltrated erythema one month later, when it began to take on the clinical appearance of granuloma, showed...
disappearance of pruritus after 4 weeks. Thereafter, because of the worsening of his general condition, we began chemotherapy consisting of mitoxantrone hydrochloride 5 mg/week, vindesine sulfate 0.7 mg/week, and prednisone 20 mg/day. However, after a remission of about one month, he died of pneumonia 4 months after hospitalization.

COMMENTS

Because the clinical appearances of ATL are so variable, some being similar to those of MF, and because the HTLV-I was only recently discovered, we cannot rule out the possibility that some of the past cases reported as MF with granuloma (3–8) might actually have been granulomatous ATL. However, even among those, clinical or histologic features of AEGCG as noted in this patient were not reported. Sequential histopathologic studies on the lesion on the back in this patient showed the formation of AEGCG in the pre-existing lymphomatous skin changes.

Ragaz & Ackerman (11) reported that actinic granuloma was found not only in MF but also in syphilis, leukemia and foreign body granuloma, which supports the view that actinic granuloma is not a specific disease entity but a specific form of granulomatous reaction. The lesions of AEGCG in our patient were found in sun-exposed skin as well as in non-exposed areas. MacGrae (12) speculated that AEGCG constitutes a cell-mediated immune response to weakly antigenic determinants on actinally altered elastic fibres. We do not deny the possible involvement of such immune-mediated reactions in ordinary AEGCG. In our case, however, because of the rapid formation of the granuloma, we rather think that even without such immune responses, HTLV-I-infected lymphocytes produced cytokines that might directly promote the phagocytosis of elastic fibres by giant cells as well as acceleration of granuloma formation.

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Furuncular Myiasis

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Two cases of cutaneous myiasis are described. The first, acquired in West Africa, consisting of 36 furuncle-like lesions, was caused by the larvae of Cordylobia anthropophaga. An adult fly was raised from one larva. In the second patient, the infestation was caused by five larvae of Dermatobia hominis acquired in Central America. Neither patient was aware of any infestation, but the clinical presentation, although also suggestive of bacterial skin infection, showed a typical course and symptoms of cutaneous myiasis in both patients. Key words: Tumbu and botfly myiasis; Larval eradication; Scanning electronmicroscopy.

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The larvae of several species of two-winged flies (Diptera) are capable of causing cutaneous myiasis. The life cycle of these parasites includes the laying eggs outside the host or on wounds, penetration of small larva into the skin, several moult and finally, the emergence of a mature larva which leaves the host to pupate in the soil or, exceptionally, beneath the host’s skin (1).

Cutaneous myiasis is a not uncommon parasitic infestation in the tropics and, with the increase in international travel, cases are also encountered outside the endemic region, in both Europe and North America (2–8). Furuncular skin infestation is easily suspected if the physician is unaware of the infestation. We report 2 cases of cutaneous myiasis most commonly acquired by Man and describe how the larvae can be eradicated from the skin.

CASE REPORTS

Case 1

In February 1980 a 62-year-old woman spent 2 months in Senegal. Two weeks before returning to Finland she developed a fever (39.4°C), which lasted for a few days. Not long after, small, red nodules developed on her abdomen and buttocks. Some of these became rather painful and excreted serous exudate.

On her return to Finland, she was admitted to a local hospital. Bacterial skin infection was suspected, and she was treated with dicloxacillin (2 g/day) for 5 days. The patient had a negative bacterial culture from the skin and a normal peripheral leukocyte count (7.3 x 10^9/L) but a slightly elevated erythrocyte sedimentation rate (ESR, 22 mm/h). New crusted lesions developed on her abdomen, buttocks and legs (Fig. 1).

She was transferred to the Department of Tropical Medicine, where 36 lesions were counted. Antibiotic treatment was continued up to 12 days and she was also given analgesic drugs. Myiasis was diagnosed when some larvae emerged from her skin. The crusts were removed, and the lesions were covered with liquid paraffin for several hours to close the airways of the larvae. The larvae were then removed from the dermis by placing the fingers beneath the burrow and squeezing the larva upwards (Fig. 2). Within one week all the larvae...