British Journal of Dermatology 1999; **140:** 358–377.

Correspondence

Epstein–Barr virus-associated lymphoid hyperplasia of the eyelid characterized by intramuscular infiltration

SIR, Latent Epstein–Barr virus (EBV) infections have been implicated in various malignant conditions, including Burkitt's lymphoma in Africa, nasopharyngeal carcinoma, post-transplantation lymphoproliferative disorders, Hodgkin's lymphoma, non-Hodgkin's lymphoma in patients with AIDS, chronic active EBV infection, gastric cancer, pyothorax-associated pleural lymphoma and smooth-muscle tumours.[1,2] We have previously reported the characteristic clinicopathological features of EBV-associated lymphoproliferative disorders: (i) subcutaneous lymphoma associated with haemophagocytosis; (ii) hydroa vacciniforme-like vesiculopapular eruptions; (iii) angiocentric lymphoma; and (iv) histiocytoid lymphoma with systemic haemophagocytic syndrome.[3] We report a further subgroup of two patients characterized by facial and eyelid swelling with infiltration of T or natural killer (NK)/T cells associated with a latent EBV infection.

Patient 1. A 40-year-old woman gave a 1-year history of swollen erythema on her right eyelid. Her family history and past history were unremarkable. The eruption was localized to the eyelid, and was associated with lymphoedema (Fig. 1a). The initial differential diagnoses included dermatomyositis, lupus erythematosus profundus, lymphoid hyperplasia of ocular adnexae and granulomatous disorders such as sarcoidosis and Melkersson–Rosenthal syndrome. No abnormalities were noted in the peripheral blood cells, blood chemistry, urinalysis, immunoglobulin levels or antibodies to nuclear antigens and human T-cell lymphotropic virus type 1. Computed tomography (CT) revealed swelling of the right eyelid and masseter muscle. Antibody titre tests against EBV revealed an anti-VCA IgG level of 1 : 320, an anti-EA IgG level of 1 : 80 and an anti-EBNA level of 1 : 10. NK cell activity and lymphokine-activated killer cell activity were normal, and her HLA typing was A26(10), A24(9), B62(15), B51(5), Cw4. A biopsy of the eyelid lesion revealed dilated lymphatic vessels, pronounced lymphoedema throughout the dermis, and infiltration of small and medium-sized lymphoid cells around the vessels and in the muscles. Immunostaining demonstrated that the infiltrating cells were mainly T cells with a CD3ε+, CD8−, CD56−, HLA-DR+ phenotype. The eyelid swelling was promptly resolved by topical and systemic steroid therapy, but recurred soon after discontinuation of this treatment.

Four years after the onset of the illness, indurated cutaneous nodules occurred on the extremities, and were associated with a fever and an elevated level of lactate dehydrogenase. A biopsy demonstrated the presence of dense infiltration by medium-sized lymphoid cells into the deep dermis and subcutaneous tissues. The tumour cells exhibited a CD3ε+, CD45RO+ phenotype, and a rearrangement of the T-cell receptor (TCR) gene was noted on Southern blotting analysis. *In situ* hybridization demonstrated that the primary eyelid lesion contained EBV-encoded small nuclear RNA (EBER)-positive cells comprising 25–40% of the infiltrating cells. In the tumorous lesions on the leg, > 80% of the infiltrating cells were positive for EBER. The EBER-positive cells did not express latent membrane protein-1. Polymerase chain reaction (PCR) analysis demonstrated the presence of the *Bam*HI W region of the EBV gene in the skin lesions. No involvement was noted in the lymph nodes, internal organs or bone marrow. Although combination chemotherapy of cyclophosphamide, adriamycin, vincristine and prednisolone led to partial remission, new subcutaneous nodules occurred without any visceral or

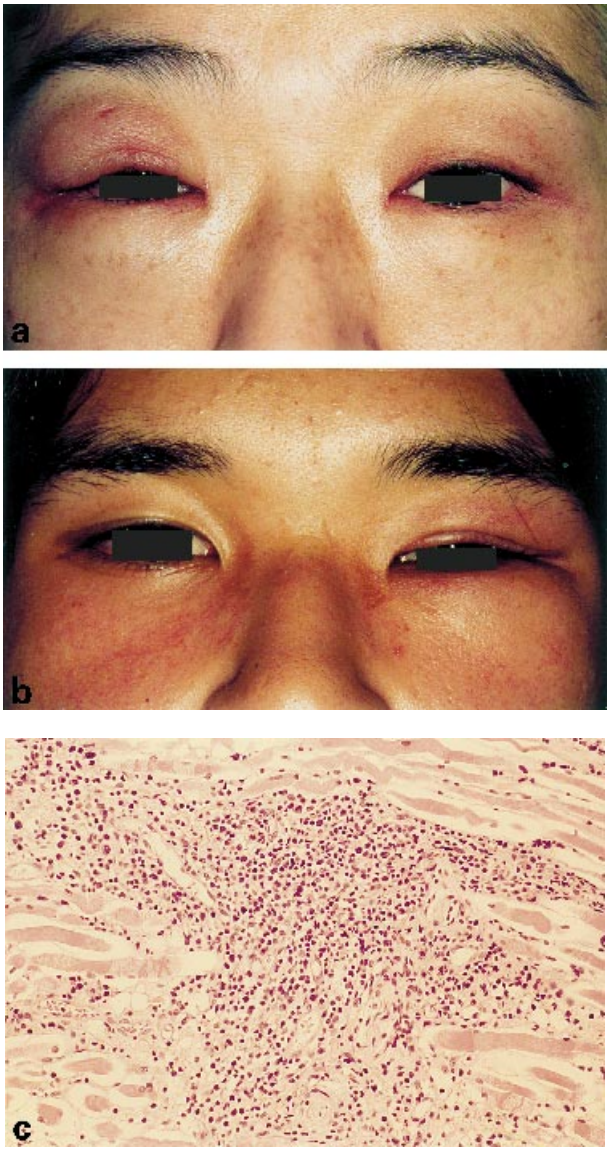


Figure 1. (a) Swollen, oedematous right eyelid (patient 1). (b) Swelling of the left eyelid (patient 2). (c) Photomicrograph showing nodular infiltration of lymphoid cells into muscle (haematoxylin and eosin; original magnification, × 200).

lymph node involvement. The patient died of respiratory failure and severe metabolic acidosis. An autopsy of the skin lesions revealed the histological features of panniculitic T-cell lymphoma with haemophagocytosis, tumour cell necrosis and karyorrhexis.

Patient 2. An 18-year-old Japanese man gave an 8-year history of an asymptomatic swollen eyelid and cheek. He was otherwise in good health, and his family history was unremarkable. Examination revealed normal coloured skin, and oedematous swelling of the left eyelid and right cheek, without any cervical lymphadenopathy or any other cutaneous manifestations (Fig. 1b). The following test results were normal or negative: full blood count, liver profile, lactate dehydrogenase, immunoglobulin levels, urinalysis, NK cell activity and lymphokine-activated killer cell activity. The antibody titres to EBV were as follows: anti-VCA IgG, 1 : 1280; anti-VCA IgA, 1 : 80; anti-EA IgG, 1 : 640; anti-EA IgA, 1 : 40; and anti-EBNA, 1 : 20. His HLA typing was A2, B62(15), Cw3, Cw7, DR6, DR9. Biopsies from the eyelid and cheek lesions demonstrated prominent lymphoedema in the dermis, and a moderate infiltration of mononuclear cells including medium-sized, atypical lymphoid cells around the vessels. A nodular infiltration of lymphoid cells into the muscles was observed in both specimens (Fig. 1c). The atypical infiltrating cells expressed a CD3ϵ+, CD4−, CD8−, CD56+ phenotype. Although their morphology was normal, the circulating lymphocytes contained an increased number of CD2+/CD56+ cells. EBER-positive cells were detected in approximately 30% of the infiltrates, and the *Bam*HI W region of the EBV genome was detected by PCR. Southern blotting analysis using a TCR Cβ gene probe failed to demonstrate any clonal expansion of the T cells. No evidence of visceral involvement or nasal cavity invasion was found by CT and scintigraphy. The patient was treated with interferon γ 2 million units intravenously five times per week, and normalization of the number of circulating CD2+/CD56+ lymphocytes ensued. Although the swelling of the eyelid and cheek was not resolved, no new lesions have developed over a 2-year observation period.

Both patients had swollen eyelid lesions characterized by the infiltration of EBER-positive T or NK/T cells, without any manifestations suggestive of a nasal lymphoma or a chronic active EBV infection. Based on their clinical and histopathological features, the following disorders should be considered as differential diagnoses: lymphoid hyperplasia of ocular adnexae,[4] dermatomyositis, lupus erythematosus profundus and Sjögren's syndrome.

Most ocular adnexal lymphoproliferative lesions are known to have a B-cell phenotype,[5] and usually present with exophthalmus, ptosis, swelling of eyelids and tumorous lesions. T-cell lymphoma primarily involving the eyelid is very rare:[6–8] only two patients having restricted eyelid lesions as an initial symptom were found to progress to systemic lymphoma.[8] These patients had the complication of haemophagocytic syndrome in the terminal stage, as in our patient 1. No laboratory test results suggestive of EBV infection were shown in these patients.

Our patient 1 progressed to an EBV-associated cutaneous T-cell lymphoma approximately 4 years after the onset, and the histological and immunophenotypic features were similar to those of a panniculitic T-cell lymphoma rather than an angiocentric lymphoma more frequently associated with EBV infection and a NK/T phenotype.[9] Our patient 2 has had persistent but non-progressive swelling of the eyelid and cheek with the infiltration of NK/T cells carrying a latent EBV infection for at least 9 years. We failed to determine the main factor(s) underlying the malignant progression. These patients shared common clinicopathological findings including swollen lymphoedema of the eyelid or cheek, nodular infiltration of lymphoid cells in the muscles, and the association of latent EBV infection. We believe that both patients should be classed as having a unique type of EBV-associated cutaneous lymphoproliferative disorder, even though the immunophenotype of the infiltrating cells was different.

Acknowledgments

This study was supported in part by grant no. 10770417 (M.O.) and no. 09670890 (K.I.) from the Ministry of Education, Science and Culture of Japan.

Department of Dermatology,
Fukushima Medical University School of Medicine,
1-Hikarigaoka,
Fukushima 960-1295,
Japan

M.Ohtsuka
K.Iwatsuki
R.Kaneko
H.Akiba
S.Kikuchi
H.Harada
F.Kaneko

References

1 Ambinder RF, Mann RB. Detection and characterization of Epstein-Barr virus in clinical specimens. *Am J Pathol* 1994; **145:** 239–52.
2 Su IJ, Hsieh HC, Lin KH *et al.* Aggressive peripheral T-cell lymphomas containing Epstein-Barr viral DNA. A clinicopathologic and molecular analysis. *Blood* 1991; **77:** 799–808.
3 Iwatsuki K, Ohtsuka M, Harada H *et al.* Clinicopathologic manifestations of Epstein-Barr virus-associated cutaneous lymphoproliferative disorders. *Arch Dermatol* 1997; **133:** 1081–6.
4 Knowles DM, Jakobiec FA, McNally L *et al.* Lymphoid hyperplasia and malignant lymphoma occurring in the ocular adnexa (orbit, conjunctiva, and eyelids): a prospective multiparametric analysis of 108 cases during 1977–87. *Hum Pathol* 1990; **21:** 959–73.
5 White VA, Gascoyne RD, McNeil BK *et al.* Histopathologic findings and frequency of clonality detected by the polymerase chain reaction in ocular adnexal lymphoproliferative lesions. *Mod Pathol* 1996; **9:** 1052–61.
6 Henderson JW, Banks PM, Yeatts RP. T-cell lymphoma of the orbit. *Mayo Clin Proc* 1989; **64:** 940–4.
7 Meyer JH, Scharf B, Gerling J. Midline granuloma presenting as orbital cellulitis. *Graefe's Arch Clin Exp Ophthalmol* 1996; **234:** 137–9.
8 Nakajima A, Abe T, Takagi T *et al.* Two cases of malignant lymphoma complicated by hemophagocytosis resembling orbital cellulitis. *Jpn J Ophthalmol* 1997; **41:** 186–91.
9 Harabuchi Y, Imai S, Wakashima J *et al.* Nasal T-cell lymphoma causally associated with Epstein-Barr virus. Clinicopathologic, phenotypic, and genotypic studies. *Cancer* 1996; **77:** 2137–49.

Pyoderma gangrenosum and myelofibrosis

SIR, Assady and colleagues[1] report a case of pyoderma gangrenosum and review the seven cases reported in the world literature. However, their references are probably a significant underestimate. In 1987, we reported two cases of pyoderma gangrenosum associated with polycythaemia rubra vera[2] and reviewed nine other reported cases. Although neither of our cases had myelofibrosis, five of the other cases with polycythaemia did have myelofibrosis,[3–7] only one of which[5] appears in the recent literature review.[1] A Medline search in July 1997 using myelofibrosis as a textword subject and pyoderma gangrenosum as a subject heading revealed a further three cases.[8–10] Thus the number of cases reported is at least 15, although details of several of these are scanty and some are hidden among patients with other causes of pyoderma gangrenosum in larger series. The point which was stressed in our report, and which remains applicable, is that development of pyoderma gangrenosum in the context of a haematological malignancy may herald a deterioration such as progression to myelofibrosis or myeloid leukaemia.

Department of Dermatology, N.H.COX
Cumberland Infirmary,
Carlisle CA2 7HY, U.K.

References

1 Assady S, Bergman R, Finkelstein R, Edoute Y. Pyoderma gangrenosum associated with myelofibrosis. *Br J Dermatol* 1998; **139:** 163–4.
2 Cox NH, White SI, Walton S, Wyatt EH, Morley WN. Pyoderma polycythaemia rubra vera. *Clin Exp Dermatol* 1987; **12:** 375–7.
3 Basset A, Maleville J, Bergoend H. Eruption vegetante des parties decouvertes dans une maladie de Vaquez traite par le phosphore 32. *Bull Soc Fr Dermatol Syphilogr* 1969; **76:** 63–4.
4 Perry HO, Winkelmann RK. Bullous pyoderma gangrenosum and leukaemia. *Arch Dermatol* 1972; **106:** 901–5.
5 Gopinath DK, Wolfe RD, Sabharwal K. Pyoderma gangrenosum with myelofibrosis. *J Kyoto Med Assoc* 1974; **72:** 548–50.
6 Michaelsson G, Molin L, Ohman S *et al.* Clofazimine: a new agent for the treatment of pyoderma gangrenosum. *Arch Dermatol* 1976; **112:** 344–9.
7 Deschamps P, Leroy D, Dresch C, Michel M. Immune deficiency related to pyoderma gangrenosum associated with polycythaemia rubra vera. *Nouv Presse Med* 1977; **6:** 2339–41.
8 Sgarabotto D, Vianello F, Valeri P *et al.* Pyoderma gangrenosum associated with idiopathic myelofibrosis. Case history. *Haematologia* 1993; **25:** 249–52.
9 Delgado P, Franco E, Sanchez M. Sindrome de Sweet y pioderma gangrenoso en un paciente afecto de mielofibrosis idiopatica. *Sangre* 1993; **38:** 248–9.
10 Samuels LE, Kaufman MS, Kussmaul WG, Brockman SK. Pyoderma gangrenosum and myelofibrosis after coronary artery bypass grafting. *J Thoracic Cardiovasc Surg* 1997; **113:** 795–7.

Malignant melanoma and basal cell carcinoma in a combined tumour

SIR, The co-occurrence of cutaneous malignant melanoma (MM) and basal cell carcinoma (BCC) has rarely been reported.[1–3] We describe such an occurrence.

A 71-year-old Caucasian man gave a 14-year history of a papule on the distal part of his nose. A dark macule had been gradually enlarging on the lower side of the lesion for 2 years. The lesion was 11×7 mm in size (Fig. 1a), with a brown 4×4 mm papule on the upper side, and in the lower part, a map-like heavily pigmented area showing asymmetry, border irregularity and colour variegation (black and blue–black), 7 mm in diameter. He had a history of heavy sun exposure, but no family history of MM. The lesion was excised surgically.

Sections from the lower part of the lesion revealed irregular proliferation of epithelioid and spindle-shaped or sometimes cuboidal, clear cells featuring great variation in size, with atypical nuclei in the dermoepidermal junction, infiltrating into the dermis and forming small nests, sometimes containing melanin pigment. Sections from the upper part of the lesion showed these atypical melanocytes mixed with basaloid cells occasionally presenting peripheral palisading or parakeratotic cells in strands or in concentric whorls, forming a composite tumour mass (Fig. 1b). The mitotic rate was $2/mm^2$. The dermis beneath the tumour showed melanophages and a dense chronic inflammatory infiltrate.

Immunohistochemical staining revealed that the nucleus and cytoplasm of the atypical spindle and epithelioid cells were positive for S-100 protein and negative for keratin. Keratin staining revealed aggregates of positively stained BCC cells and keratinocytes with dyskeratosis, squamous eddies, and horn pseudocysts admixed and trapped among negatively stained atypical melanocytes. The tumour was diagnosed as an MM (tumoral type, Clark's level IV, Breslow's depth 1·9 mm; low mitotic rate) and a BCC (pigmented and keratotic type) arising next to each other in one lesion.

Cases of MM and BCC occurring next to each other comprising one tumour are very rare: only four similar cases have previously been published.[1–3] The histology of the lesion showed close intermingling of both epithelial components, forming a compound tumour. The correlation between the morphological parameters seen on routine sections and the immunohistochemical findings allowed the basaloid cells to be differentiated from the atypical melanocytes (despite the wide expression of S-100 protein, including on S-100 antigen-presenting cells). The combination of the two neoplasms resulted in a very uncommon occurrence, presumably representing two concurrent, independent but adjacent tumours. However, it may indicate a possible link between the two different cell types. Dendritic melanocytes may participate in formation of neoplasia in pigmented BCC, suggesting an intimate relationship between the BCC tumour cells and melanocytes.[2]

Although the factors that promote MM remain unclear,

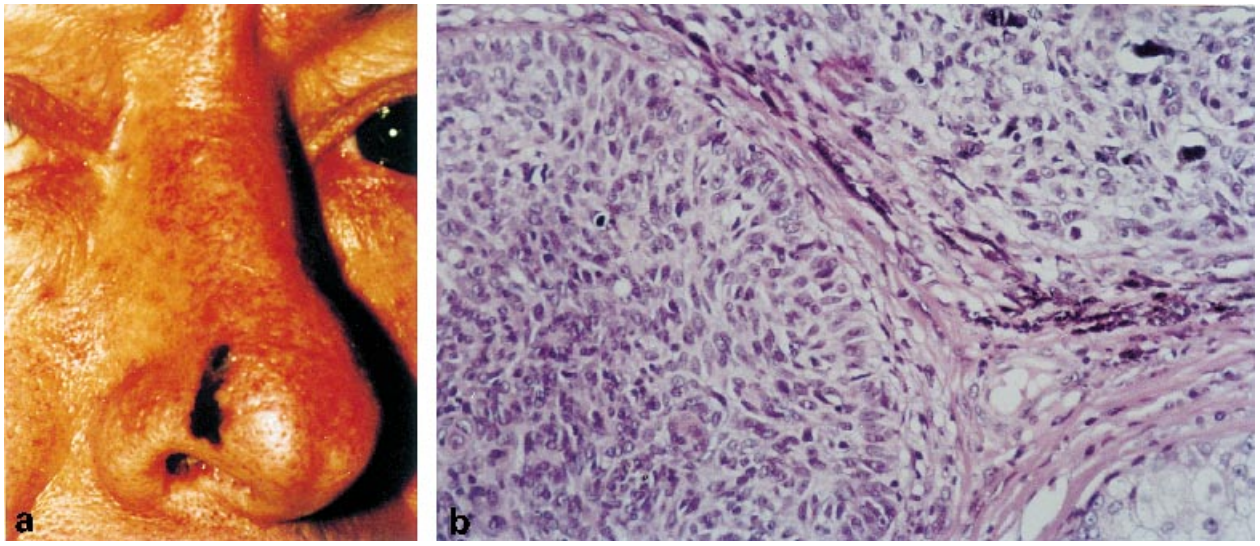


Figure 1. (a) The pigmented macule on the nose, showing irregular borders and variegation of colour. Note the papule on the upper side. (b) A photomicrograph showing adjacent areas of malignant melanoma and basal cell carcinoma. Islands of basaloid cells with peripheral palisading are seen on the left side. Note diffuse atypical melanocytic hyperplasia on the right. Melanin granules were also found within melanophages in the stroma surrounding the composite tumour (haematoxylin and eosin; original magnification, ×200).

some reports suggest a possible association between the presence of the HLA-DR4 gene and development of MM and multiple skin cancers.[4,5] The order of appearance of the two tumours is not known, but based on the clinical history, the BCC had possibly appeared first, suggesting that the BCC might have had an inductive influence on the melanocytic growth.

IPAC Instituto de Patologia Geral e Cutânea, FIOCRUZ, Rua Valdemar Falcão 121, Brotas, 40295–001 Salvador, Bahia, Brazil, E-mail: aryon@cpqgm.fiocruz.br

A.de Almeida Barbosa jr
N.Sales Guimarães
M.de Lourdes Lopes
M.Sadigursky
M.Bittencourt

References

1 Charlton RE. A melanomatous carcinoma. *Am J Dermatopathol* 1984; **6** (Suppl.): 221–9.
2 Bhawan J, Mehregan AH, Jung-Legg Y, Gellis SE. Pigmented basal cell carcinoma and superficial spreading malignant melanoma: an unsual combination. *J Cutan Pathol* 1984; **11:** 471–5.
3 Coskey RJ, Mehregan AH. The association of basal cell carcinomas with other tumors. *J Dermatol Surg Oncol* 1987; **13:** 553–5.
4 Barger BO, Acton RT, Soong SJ *et al.* Increases of HLA-DR4 in melanoma patients from Alabama. *Cancer Res* 1982; **42:** 4276–9.
5 Czarnecki D, Nicholson I, Tait B, Nash C. HLA-DR4 is associated with the development of multiple basal cell carcinoma and malignant melanoma. *Dermatology* 1993; **187:** 16–18.

Basal cell carcinoma of the penis

Sir, Clinicians most frequently diagnose basal cell carcinomas (BCCs) on the head and neck. However, various sites have been described that are considered unusual, including not only covered areas such as the buttock, axilla and perineum but also uncovered areas such as the hand.[1] Perianal, scrotal and penile BCCs are infrequent.[1,2] The penis is one of the least common locations, with only 28 cases cited in the literature.[3]

A 80-year-old Caucasian man in good health presented with a 7-month history of an enlarging tender plaque on his penis. There was no history of exposure to arsenicals, radiotherapy or excess sun exposure to the genitals. He had had no other skin cancers diagnosed. Examination showed a 1·7 × 2·0 cm plaque with a scaled and eroded surface on the proximal shaft of the penis. The border of the lesion was well defined without a rolled edge and no telangiectasia were seen. There was no evidence of excessive actinic elastosis or naevoid BCC syndrome. The initial clinical impression was of a squamous cell carcinoma. The lesion was excised and the histology reported as an ulcerated nodular BCC. Actinic damage was not seen in the surrounding dermis (Fig. 1).

Most penile cancers are squamous cell in origin; BCCs are rarely reported and are absent from some large series.[4] Of the described cases of penile BCC, most occurred on the shaft of the penis with a minority on the prepuce and glans. Predisposing factors seem to be absent in the reported cases. Most were described clinically as nodular or Bowenoid in appearance.[3] There are no documented cases of metastasis from a penile BCC and local excision represents the treatment of choice.[1] The possibility of a BCC should be considered by the clinician in the differential diagnosis of penile lesions.

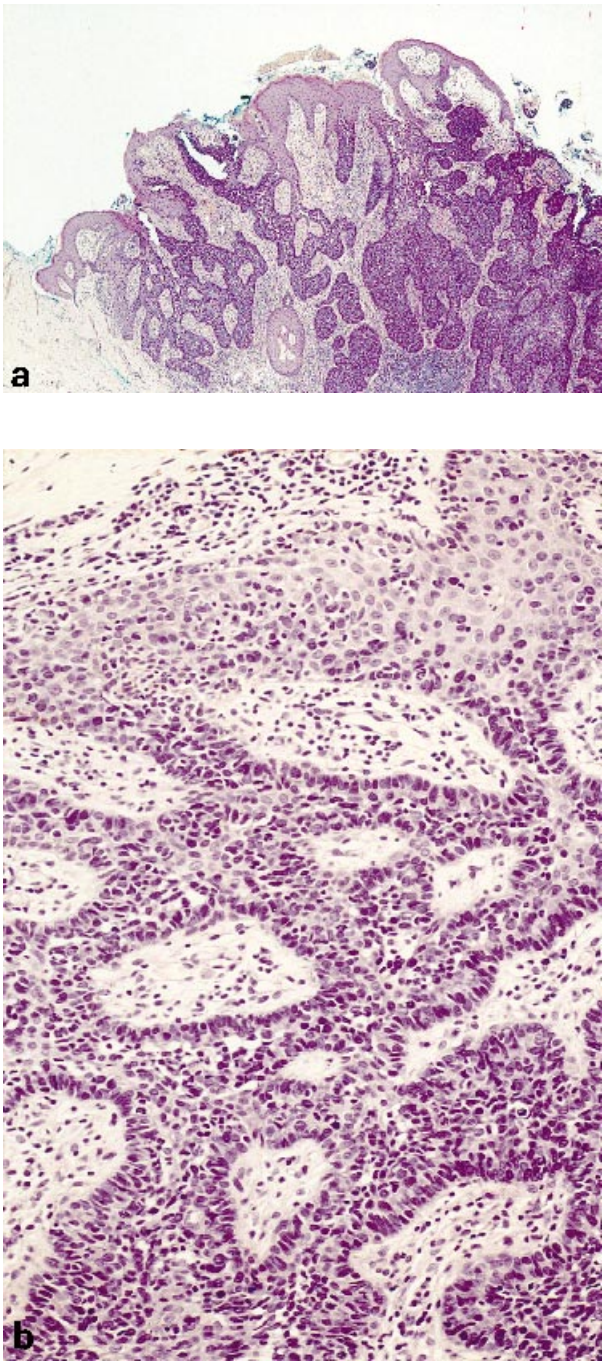


Figure 1. (a) Photomicrograph showing ulcerated nodular basal cell carcinoma [haematoxylin and eosin (H&E); original magnification, ×4]. (b) Photomicrograph of basal cell carcinoma demonstrating peripheral palisade (original magnification ×40).

St John's Institute of Dermatology, H.R.SMITH
St Thomas' Hospital, M.M.BLACK
London SE1 7EH, U.K.

References

6 Betti R, Bruscagin C, Inselvini E, Crosti C. Basal cell carcinomas of covered and unusual sites of the body. *Int J Dermatol* 1997; **36:** 503–5.
7 Nahass GT, Blauvelt A, Penneys NS. Metastases from basal cell carcinoma of the scrotum. *J Am Acad Dermatol* 1991; **26:** 509–10.
8 Goldminz D, Scott G, Klaus S. Penile basal cell carcinoma. *J Am Acad Dermatol* 1989; **20:** 1094–7.
9 Hartman DL, Danville PA. Basal cell epithelioma of the penis. *Arch Dermatol* 1966; **94:** 326–7.

Squamous cell carcinoma of the leg in a patient with prolidase deficiency

SIR, Prolidase or peptidase D is a ubiquitous enzyme which plays an important part in collagen degradation and synthesis.[1] Prolidase deficiency (PD) is a rare genetic disease, inherited as an autosomal recessive trait.[2] Clinical manifestations are highly variable and include mental retardation, abnormal facies, repeated infections, hepatosplenomegaly, skeletal deformities, eye and tooth abnormalities and extensive skin lesions, mainly in the form of deep non-healing leg ulcers, purpura, diffuse telangiectasia and lymphoedema.[3,4]

A 40-year-old woman with chronic, recurrent ulcers on both legs and feet was first seen 8 years ago. She was born at term after a normal pregnancy from unrelated parents. At 12 years of age, ulcers of the legs developed. These never healed completely, and frequently became infected with *Staphylococcus aureus*. At 14 years, she was treated for chronic otitis media. Hearing assessment showed bilateral hypoacusia with rhinolalia. She had a history of gall stones. There was no family history of any similar disease nor of mental retardation.

Examination revealed a characteristic facial appearance with low hairline, frontal bossing, beak-like nose, dental anomalies, extensive caries and chronic purulent tonsillitis. She had hepatosplenomegaly, and her skin was thin with visible veins, especially on the abdomen, and telangiectasia on the thighs. Irregular ulcers with a granular surface and purulent discharge were observed on both legs and feet but without varicose veins. The surrounding skin was atrophic, scarred and hairless. There was no neurological detect, but she had a varus deformity of the left ankle. An X-ray revealed severe deformity of the bones of the right foot with osteolysis. Laboratory tests showed an iron deficiency anaemia and an elevated erythrocyte sedimentation rate. Specific tests excluded chromosomal, immunological and vascular defects. Urine analysis by automatic amino acid analyser revealed massive excretion of glycine-proline dipeptides (> 300 mg/24 h per m^2). Prolidase activity in erythrocytes in the patient and her parents was determined by the Jackson method as the amount of glycine obtained in a specific substrate from red blood cell haemolysate. The values, expressed as mmol/h per g haemoglobin, were < 2 in the patient and 25 and 30 in her mother and father, respectively (normal 49·5 ± 5·3). Transfusion of normal erythrocytes, oral manganese and ascorbic acid supplements, application of glycine and proline ointment and biological dressing brought mild improvement of the ulcers. The patient was discharged from hospital and was not seen again for several years. One year ago she was again admitted

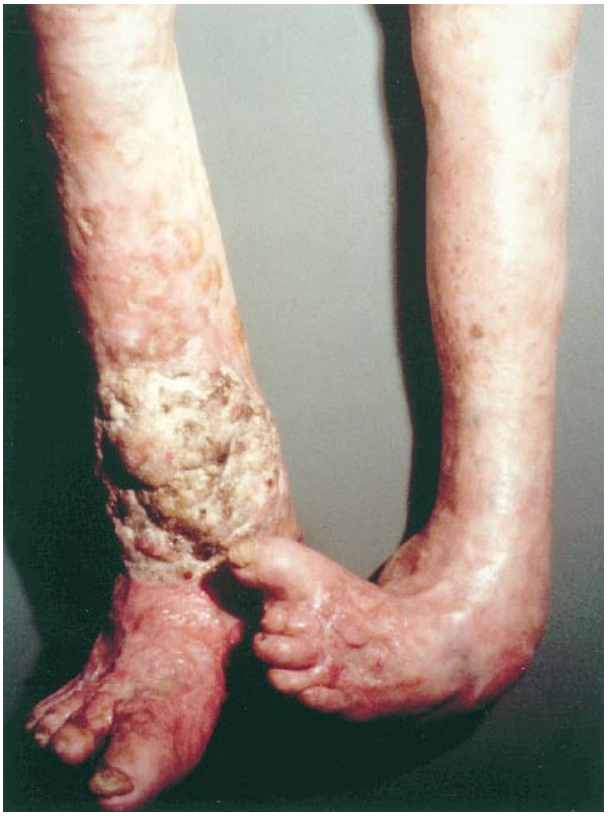


Figure 1. The tumour appears as an exophytic mass on the front of the lower right leg.

with a vegetating lesion on the anterior side of the lower right leg. The tumour was large and cauliflower-like with a squashy consistency and discharged foul-smelling material (Fig. 1). Histological examination showed well-differentiated epithelial proliferation consisting of broad strands which compressed and displaced collagen bundles. Cell masses, often containing keratin-filled cysts in their centre, consisted of well-differentiated keratinocytes. Nuclear atypia and individual cell keratinization were rare; horn pearls were absent. The stroma was oedematous with many inflammatory cells at the margins of the tumour. Conservative treatment was not possible because of the size of the tumour and the poor condition of the integument. The right leg was therefore amputated above the knee.

Peptidase D is a ubiquitous enzyme which cleaves iminodipeptides with C-terminal proline or hydroxyproline. The absence or a marked deficiency in the activity of this enzyme leads to an insufficient release of free proline and reutilization of proline for the synthesis of new collagen. This impairs the metabolism of collagen and other proteins containing large amounts of proline. How this biochemical defect is related to the polymorphous clinical manifestations of the disease is still not clear.[5] As cases of severe PD without clinical manifestations have been reported, some additional factor(s) unrelated to the prolidase gene product may be necessary before the disease can manifest.[2,3] With regard to the pathogenesis of leg ulcers, some authors suggest that deposition of amyloid-like fibrils around dermal capillaries and changes in the basal lamina around small dermal vessels with amyloid deposition might play an important part.[2,6,7] A recent study on prolidase gene expression in normal scar tissue suggests that peptidase D is also important in wound healing and in maintaining the normal architecture of the epidermis.[7]

Epithelial neoplastic lesions are a rare development on the lower leg of patients with chronic ulcerations or lymphoedema. However, recent studies show that the risk of developing squamous cell carcinoma (SCC) is higher at the site of venous leg ulcers.[8] As recalcitrant chronic leg ulcers are a common and constant finding in PD, an increased risk of SCC might be expected. In the few patients with PD so far reported, no mention has been made of epitheliomas at sites of chronic ulcers. This may be related to the small number of cases of PD reported and the absence of sufficiently long follow-up. However, we believe that SCC must be added to the list of clinical features that may be associated with prolonged leg ulceration secondary to PD.

Acknowledgments

We acknowledge the assistance of Professor G.Cetta, Department of Biochemistry, University of Pavia, who performed amino acid analysis of urine samples and measurement of prolidase activity in erythrocytes.

Department of Dermatology, M.Fimiani
University of Siena, P.Rubegni
Policlinico 'Le Scotte', G.de Aloe
Viale Bracci, R.Bilenchi
53100 Siena, Italy, L.Andreassi
E-mail: Derm@unisi.it

References

1 Goodman SI, Solomons CC, Muschenheim F *et al.* A syndrome resembling lathyrism associated with iminopeptiduria. *Am J Med* 1968; **45:** 152–9.
2 Ogata A, Tanaka S, Tomoda T *et al.* Autosomal recessive prolidase deficiency. Three patients with recalcitrant leg ulcers. *Arch Dermatol* 1981; **117:** 689–94.
3 Milligan A, Graham-Brown RAC, Burns DA, Anderson I. Prolidase deficiency: a case report and literature review. *Br J Dermatol* 1989; **121:** 405–9.
4 Bissonnette R, Friedmann D, Giroux JM *et al.* Prolidase deficiency: a multisystemic hereditary desorder. *J Am Acad Dermatol* 1993; **29:** 818–21.
5 Leoni A, Cetta G, Tenni R *et al.* Prolidase deficiency; chronic leg skin ulcerations occurring in two siblings. Clinical, biochemical and morphological aspects. *Arch Dermatol* 1987; **123:** 493–9.
6 Pasquali-Ronchetti I, Quaglino D, Dyne KM *et al.* Ultrastructural studies on dermis from prolidase deficient subjects. *J Submicrosc Cytol Pathol* 1991; **23:** 439–45.
7 Senboshi Y, Oono TT, Arata J. Localization of prolidase gene expression in scar tissue using *in situ* hybridization. *J Dermatol Sci* 1996; **12:** 163–71.
8 Baldursson B, Sigurgeirsson Lindelof B. Venous leg ulcers and squamous cell carcinoma: a large-scale epidemiological study. *Br J Dermatol* 1995; **133:** 571–4.

Pigmented follicular cyst showing degenerating pigmented hair shafts on histology

SIR, A 45-year-old woman presented with an asymptomatic slightly pigmented lesion in the upper pubic region. The lesion had been present for 5 years. On examination, there was a slightly brownish nodule, 1 cm in diameter, on the hypogastrium (Fig. 1a). Histological examination after excision revealed an infundibular cyst in the mid-dermis containing laminated keratinous material with a melanin-pigmented substance and a few cross-sections of pigmented hair shafts (Fig. 1b,c).

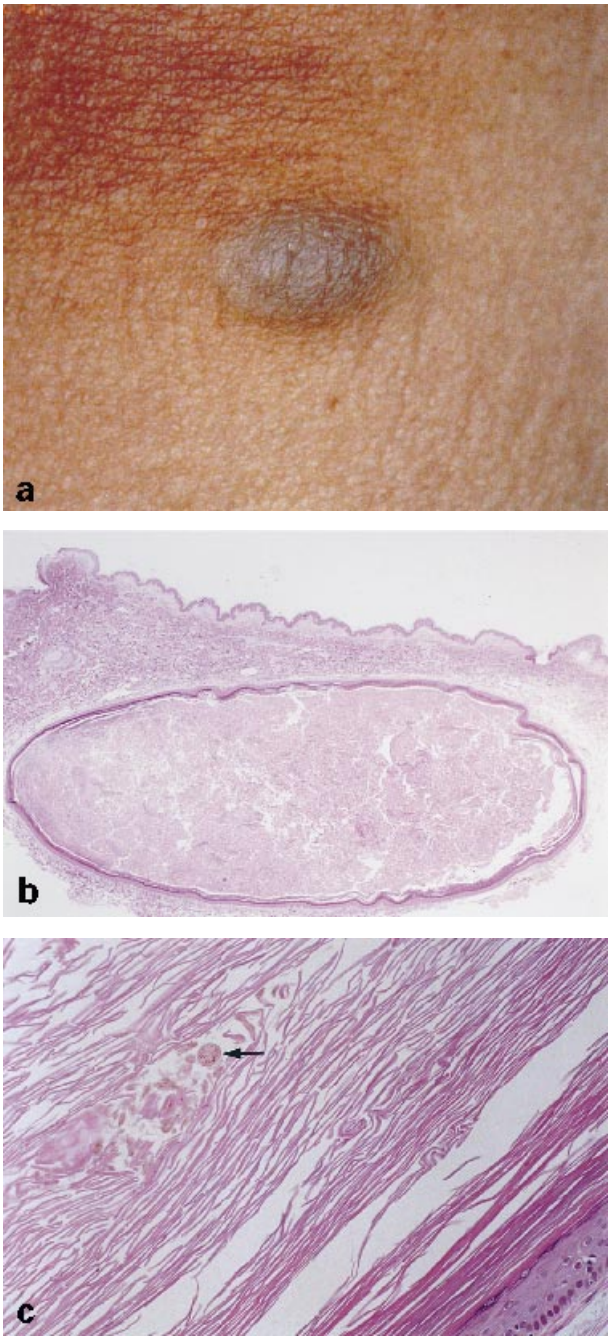


Figure 1. (a) A slightly brownish nodule on the hypogastrium. (b) Low magnification of the cyst [haematoxylin and eosin (H&E); original magnification, ×25]. (c) A cross-section of a pigmented hair shaft in the cyst (arrow) (H&E, original magnification, ×360).

Seven cases of pigmented follicular cyst (PFC) were first reported by Mehregan and Medenica[1] in 1982. Since then, as far as we are aware, there have been only 11 reported cases.[2–5] We reviewed these 12 cases including our own. There was a male preponderance, with 10 of the 12 patients being men. All 12 patients were aged between 20 and 69 years (20–29, two patients; 30–39, two; 40–49, three; 50–59, one; and 60–69, four). The sites of predilection were the scalp and the cervical areas. The diameter of the tumour ranged between 0·4 and 1·5 cm. The colour of the PFC varied from brown to black. Clinically, our case is similar to those reported previously apart from the location. Although PFCs normally occur on the scalp and the cervical area, one was found on the hypogastrium in our patient. There has been no previous report of a PFC in this region.

Histologically, our pathological specimen varies from the others in that most hair shafts have degenerated to a melanin-pigmented substance apart from the few remaining cross-sections of pigmented hair shafts. This observation suggests that the pigmentation of the cyst is due to the presence of both pigmented hair and degenerated hair. Other histological features were similar to those of epidermal cysts. The cyst wall consisted of a layer of stratified squamous epithelium which showed keratinization with the formation of keratohyalin granules. No sebaceous lobules were found within the cyst wall, thereby differentiating PFC from dermoid cyst, steatocystoma and vellus hair cyst. The cavity characteristically contained laminated keratinous material. As there has been no previous report of PFC with partially degenerating pigmented hair shafts in the cyst, as opposed to completely degenerated hair shafts, there may have been cases of PFC containing degenerating hair shafts which were misdiagnosed as epidermal cysts. We believe PFC not to be as rare as was thought. On histology, the hair shafts in the cyst can easily be overlooked, leading to misdiagnosis as an epidermal cyst.

Department of Dermatology, K.IWAHARA
Koto Hospital, M.KOIKE
6-8-5 Ojima Koto ku, H.OGAWA*
Tokyo 136, Japan
**Department of Dermatology,*
Juntendo University,
School of Medicine,
3-1-3 Hongo Bunkyo ku,
Tokyo 113, Japan

References

1 Mehregan AH, Medenica M. Pigmented follicular cysts. *J Cutan Pathol* 1982; **9:** 423–7.
2 Pavlidakey GP, Mehregan A, Hashimoto K. Pigmented follicular cyst. *Int J Dermatol* 1986; **25:** 174–7.
3 Requena Caballero L, Sanchez Yus E. Pigmented follicular cyst. *J Am Acad Dermatol* 1989; **21:** 1073–5.

4 Sandoval R, Urbina F. Pigmented follicular cyst. *Br J Dermatol* 1994; **131:** 130–1.
5 Ohashi S, Kubota Y, Mizoguchi M. A case of pigmented follicular cyst. *Rinsho Derma* 1996; **38:** 1737–40.

Morphoea in a newborn boy

SIR, Scleroderma-like eruptions in the newborn may represent several different dermatoses, some with a good prognosis, e.g. scleredema[1] and subcutaneous fat necrosis,[2] and others, e.g. sclerema neonatorum[2] and systemic scleroderma, with a more evident systemic involvement and often a bad prognosis.[3–5]

We report a newborn boy born at 37 weeks' gestation after an uneventful pregnancy. The birth weight was 2·88 kg, and the APGAR scores were 7 at 1 min and 9 at 5 min. After delivery, the infant presented cyanosis because the umbilical cord was twisted around the neck. A hypertonic–hyperkinetic syndrome was also present. A diffuse cutaneous sclerosis with tight, shiny, bound-down skin with herniation of the spared nipple areas and with an evident venous network was observable. A full blood count and biochemical profile, electrocardiogram, electroencephalogram, abdominal ultrasound and neurological examination were all normal. Urinalysis and urine culture showed an infection caused by *Escherichia coli*, which was treated with a systemic antibiotic.

The patient was seen when 2 months old. The generalized cutaneous sclerosis was particularly evident on the

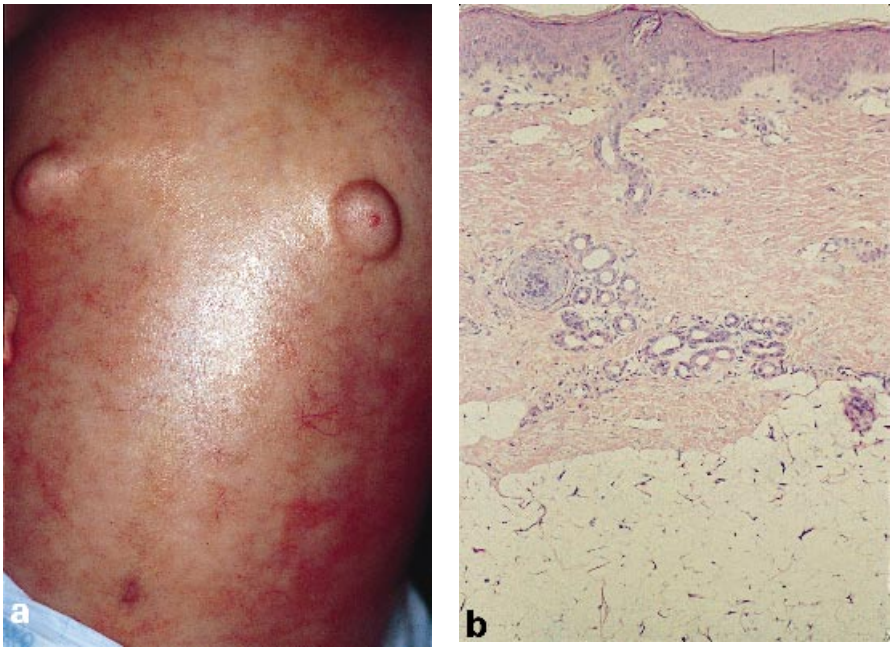


Figure 1. (a) The clinical picture of cutaneous sclerosis with tight, shiny, bound-down skin with herniation of the spared nipple areas. (b) A photomicrograph showing a thickened reticular dermis with bundles of sclerotic collagen observable even below the sweat glands (haematoxylin and eosin; original magnification, ×40).

Table 1. Differential diagnosis of scleroderma-like disorders of the newborn

	Premature birth	Associated conditions	Skin manifestations	Localization	Histopathology	Prognosis
Sclerema neonatorum	Present	Sepsis, cardiac and respiratory disease	Thickened skin	Diffuse	Needle-shaped clefts in radial arrays of the fat cells	Bad
Subcutaneous fat necrosis of the newborn	Absent	None	Red to violaceous nodules	Face, arms, glutei, thighs	Necrosis of fat cells with granulomatous reaction	Good
Scleredema	Absent	Streptococcal infections	Oedema	Face, neck, back	Empty spaces among collagen fibres with mucin	Usually good
Systemic scleroderma	Absent	None	Raynaud's phenomenon, involvement of the joints	Acral onset	Thickened collagen fibres, with sclerosis of subcutaneous fat	Bad
Generalized morphoea	Absent	None	Scleroderma-like lesions	Diffuse	Thickened collagen fibres, with sclerosis of subcutaneous fat	Good

abdomen and lumbar region, face and thighs, with indurated non-tender and non-pitting slightly cyanotic skin (Fig. 1a). Laboratory tests, including antinuclear antibodies, antibodies to toxoplasmosis, rubella, cytomegalovirus, herpes simplex (TORCH) and *Borrelia burgdorferi*, urinalysis, blood and urine culture, were normal, except for a low complement level. A chest X-ray, electrocardiogram, electroencephalogram, abdominal ultrasound and echoencephalogram were all normal. A skin biopsy, taken from abdominal skin at the age of 2 months, showed a thickened reticular dermis, bundles of sclerotic collagen set parallel to the epidermal surface, without fenestration, and dermal telangiectasias (Fig. 1b). There was no accumulation of inflammatory cells and the appendages were only slightly atrophic and compressed. Bundles of dense collagen were observable even below the sweat glands. The fat cells were normal. A mucin stain was negative. Electron microscopy showed a normal epidermis, a thickened dermis, and unaltered fibroblasts surrounded by abundant collagen fibres. There was neither lymphocyte infiltration, nor ectasia of the vessels. Abundant connective tissue was present around fat lobules. The fat cells were normal.

The absence of organ involvement and the progressive improvement of the skin lesions, with a slow but gradual reduction of the cutaneous sclerosis, allowed us to give topical treatment only. After three and a half years, a slight sclerosis remained on the abdomen and lower third of the legs. The psychomotor development was slightly below average. The differential diagnosis included sclerema neonatorum, subcutaneous fat necrosis of the newborn, scleredema, systemic scleroderma and generalized morphoea. The main differentiating clinical and histopathological features reported in the literature are given in Table 1.

The absence of prematurity and associated infectious disease, the clinical manifestations and the typical histological features suggested a diagnosis of scleroderma. In more detail, the absence of internal organ involvement and the spontaneous improvement of the cutaneous sclerosis allowed us to diagnose a generalized morphoea.

Department of Dermatology, A.BARBA
Verona University, P.ROSINA
Piazzale Stefani 1, C.CHIEREGATO
37126 Verona, Italy F.S.D'ONGHIA

References

1 Heilbron B, Saxe N. Scleredema in an infant. *Arch Dermatol* 1986; **122:** 1417–19.
2 Fretzin DF, Arias AM. Sclerema neonatorum and subcutaneous fat necrosis of the newborn. *Pediatr Dermatol* 1987; **4:** 112–22.
3 Uziel Y, Miller ML, Laxer RM. Scleroderma in children. *Pediatr Clin N Am* 1995; **42:** 1171–203.
4 Uziel Y, Krafchik BR, Silverman ED *et al.* Localized scleroderma in childhood: a report of 30 cases. *Semin Arthritis Rheum* 1994; **23:** 328–40.
5 Black CM. Prognosis and management of scleroderma and scleroderma-like disorders in children. *Clin Exp Rheum* 1994; **12** (Suppl. 10): S75–81.

Hereditary sclerosing poikiloderma of Weary: report of a new case

SIR, Hereditary sclerosing poikiloderma was first described by Weary *et al.*[1] in 1969. The original cases presented as an autosomal dominant connective tissue genodermatosis with variable penetrance, affecting members of two black families. In 1995, Fazio *et al.*[2] reported the first case in a Caucasian. We report further cases of hereditary sclerosing poikiloderma in Caucasians, and comment on new clinical features.

A 67-year-old woman presented progressive generalized poikiloderma that had first appeared at the age of 4 years. The family history showed that the mother and two brothers were also affected. The mother died at the age of 38 years of non-established causes, and the brothers died at the ages of 54 and 66 years as a result of valvular heart disease. The patient had two healthy sisters.

Examination revealed skin of poikilodermic appearance on both cheeks, the axillae (Fig. 1a), the anterior aspect of both legs and the abdomen. In the latter location the lesions surrounded the waist in a belt-like manner. The skin of the neck presented multiple yellowish papules (Fig. 1b) that had appeared at the age of 20 years, resembling the 'goose bumps' of patients with elastic pseudoxanthoma. The hands were sclerodermatous in appearance (Fig. 1c), with retraction and hardening of the skin, particularly in the region of the interphalangeal joints. The patient had Raynaud's phenomenon. The palm of the right hand was crossed by a sclerous band that affected and slightly retracted the ring finger. Full blood count, routine blood biochemistry, protein electrophoresis and complement levels were normal. Rheumatoid factor and antinuclear, anti-DNA, anti-Scl-70 and anticentromere autoantibodies were negative.

Two skin biopsies were obtained: one of the fibrous band crossing the palm and another of the poikilodermic zone of the axilla. The former showed fibrosis in the reticular dermis, with small fibrotic and hyalinized sweat glands compatible with scleroderma. The axillary biopsy showed the absence of dermal papillae, haemorragic foci without inflammatory reaction, dilated dermal capillaries and elastic fibre fragments in the upper third of the dermis (orcein stain) compatible with poikiloderma. Echocardiography revealed severe aortic stenosis with heavily calcified sigmoid valves, slight aortic insufficiency, and slight mitral stenosis and insufficiency with important thickening and calcification. Digital capillaroscopy showed a sclerodermiform pattern characterized by a decrease in the number of capillaries and an increased venous component, a subungual capillary network, anomalous solenoid capillary morphology and pathological communications between capillaries.

Weary *et al.* established five clinical features which define the disease.[1] These are: generalized poikiloderma with accentuation in flexural regions, sclerosis of palms and soles, linear hyperkeratotic and sclerotic bands in the axillae and antecubital and popliteal fossae, clubbing of the fingers, and tissue calcinosis as a late manifestation in one patient. The disease affected the mother and five offspring (three daughters and two sons) in one family, and only a 4-year-old girl in the

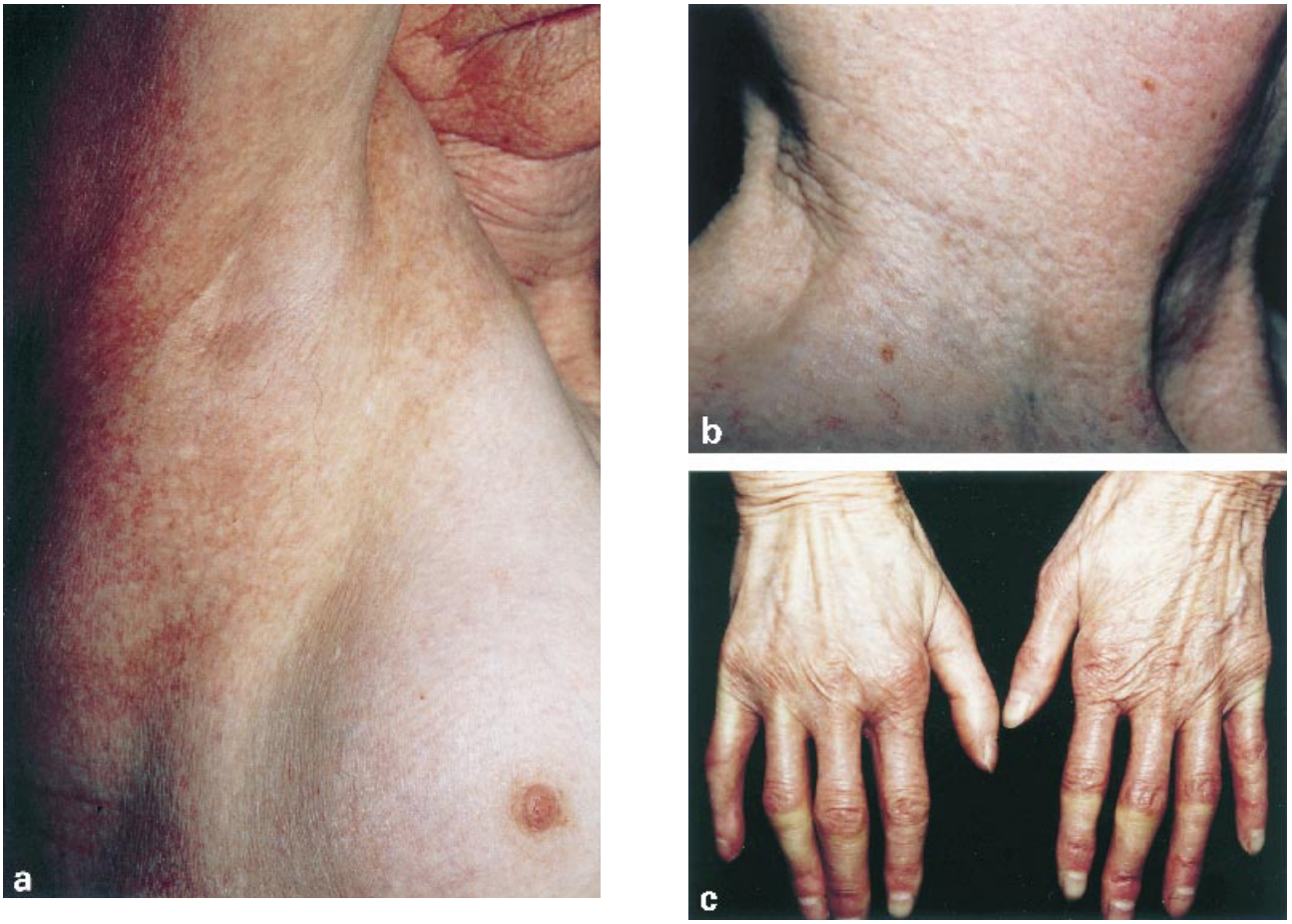


Figure 1. (a) Poikiloderma affecting the axilla. (b) The goose bumps appearance of the skin on the neck. (c) The sclerodermatous appearance of both hands.

other family described.[1] Apart from the aforementioned clinical features, one patient had non-calcified aortic stenosis of unknown aetiology, without heart failure, and a small duodenal ulcer.

The disease develops in early childhood in the form of progressive poikiloderma, and sclerosis of the hands and feet appears later. Our patient is the second case reported in a Caucasian and the ninth published to date. Cardiac involvement was reported in only one previously described case, although without valve calcification. However, in the light of the present case, we believe that cardiac abnormalities may represent an important element in hereditary sclerosing poikiloderma, and may have prognostic implications. Our patient and her two brothers all presented with major heart valve changes that produced no clinical manifestation but probably caused the death of the two men. Other important clinical considerations that have not been mentioned previously (besides cardiac involvement) are a prominent Raynaud's phenomenon in all three affected subjects, vascular changes as detected by digital capillaroscopy, and the absence of finger clubbing.

The present cases and those cases previously reported suggest that the diagnosis of this rare disease requires the presence of generalized poikiloderma, which first appears in childhood (never at birth) and gradually worsens with age. In addition, the patient must exhibit hyperkeratotic and sclerotic bands in skin folds, or palmoplantar sclerosis. Other clinical manifestations not essential to diagnosis and established from the 11 published cases (including our own) include finger clubbing, cardiac valve alterations, duodenal ulcer and calcinosis. The differential diagnosis includes all conditions that present early in life with poikilodermic skin,[3] particularly Kindler- and Weary-type acrokeratotic poikiloderma,[4,5] described by Weary *et al*. in 1971.[6]

Servicio de Dermatología, C.Grau Salvat
Hospital General Universitario, V.Pont
Av. Tres Cruces s/n, J.R.Cors
46014 Valencia, Spain A.Aliaga

References

1 Weary PE, Hsu YT, Richardson DR *et al.* Hereditary sclerosing poikiloderma. *Arch Dermatol* 1969; **100:** 413–22.

2 Fazio M, Lisi S, Amantea A *et al.* Poïkilodermie sclérosante héréditaire de Weary. *Ann Dermatol Venereol* 1995; **122:** 618–20.
3 Marghescu S. Réflexions sur la classification des poïkilodermies congénitales. *Ann Dermatol Venereol* 1987; **114:** 255–9.
4 Larrègue M, Prigent F, Lorette G *et al.* Acrokératose poïkilodermique bulleuse et héréditaire de Weary-Kindler. *Ann Dermatol Venereol* 1981; **108:** 69–76.
5 Blanchet-Bardon CL, Paille M, Mimoz C *et al.* Poïkilodermie de Theresa Kindler de l'adulte. *Ann Dermatol Venereol* 1990; **117:** 787–9.
6 Weary PE, Manley WFJ, Graham GF. Hereditary acrokeratotic poikiloderma. *Arch Dermatol* 1971; **103:** 409–22.

Behçet's disease with cutaneous changes resembling polyarteritis nodosa

SIR, Behçet's disease is a chronic, relapsing, inflammatory multisystemic disorder characterized by recurrent oral and genital ulceration as well as eye lesions, skin lesions, arthritis and neurological, vascular, gastrointestinal and pulmonary involvement. The skin is one of the most frequently involved organs, with manifestations such as erythema nodosum-like lesions, acneiform pustules and papules, thrombophlebitis and a pathergic response.[1] Cutaneous vasculitis in Behçet's disease is predominantly a venulitis or thrombophlebitis, with relative sparing of the arterial compartment.[2] Cutaneous polyarteritis nodosa is a benign, chronic and relapsing disease, characterized by a necrotizing panarteritis involving the small and medium-sized arteries in the dermis–subcutis junction.[3] Here we report a case of Behçet's disease with cutaneous polyarteritis nodosa-like lesions.

A 25-year-old woman was referred with a 6-month history of recurrent oral and genital ulcers in January 1994. She had had a number of erythematous papulopustular lesions over the face, neck, chest, mons pubis and buttocks for 1 year. She had also noticed an erythematous, thumb tip sized, subcutaneous tender nodule on the right shin, present for 1 month. Laboratory studies, including a full blood count, blood urea, electrolytes and liver function tests, urinalysis, tests for antinuclear antibody and antibodies to extractable nuclear antigen, and serum C3 and C4 levels, were all negative or within normal limits. Serum protein electrophoresis showed increased α_2 and β-globulins. Bacterial, viral and fungal cultures of the oral and genital ulcers were all negative. A chest X-ray was normal. A biopsy of the subcutaneous nodule over the right shin showed a necrotizing vasculitis of the small and medium-sized vessels in the subcutis.

The vessel walls were infiltrated with neutrophils, nuclear dust and mononuclear cells. A focal panniculitis surrounding the involved vessels was noted. An elastic (orcein) stain revealed the internal elastic laminae and residual destructive elastic fibres within the vessel walls. A biopsy from an erythematous papulopustular lesion on the chest revealed a suppurative folliculitis. Based on the clinical and histological findings, a diagnosis of Behçet's disease was established. Colchicine, dapsone and non-steroidal anti-inflammatory drugs were given. The patient's disease showed a pattern of periodic remission and relapse, which occurred about four or five times a year.

From 1997 to 1998, the patient began to notice several painful, erythematous, papules and nodules over the medial and lateral sides of the feet (Fig. 1a), which ran a chronic relapsing course. The nodules did not ulcerate, but resolved to leave hyperpigmentation. The nodules presented simultaneously with the oral and genital ulcers, and the acneiform lesions. Histology revealed a necrotizing arteritis in the subcutis (Fig. 1b), similar to that observed in the subcutaneous nodule removed from the right shin 4 years previously. The patient developed right retrobulbar pain in April 1997. An ophthalmic examination showed no evidence of uveitis or retinal vasculopathy, but neurological Behçet's disease was suspected. Magnetic resonance imaging of the brain was declined by the patient.

Cutaneous manifestations are an important feature of Behçet's disease and are classified by both the International Study Group[4] and the Research Committee of Japan[5] as a major diagnostic criterion. A number of cutaneous manifestations, including Sweet's syndrome-like lesions, pyoderma gangrenosum-like lesions, erythema multiforme-like lesions, infiltrated erythema, palpable purpura, haemorrhagic bullae, extragenital ulcerations, superficial migratory thrombophlebitis and acral purpuric papulonodular lesions, are

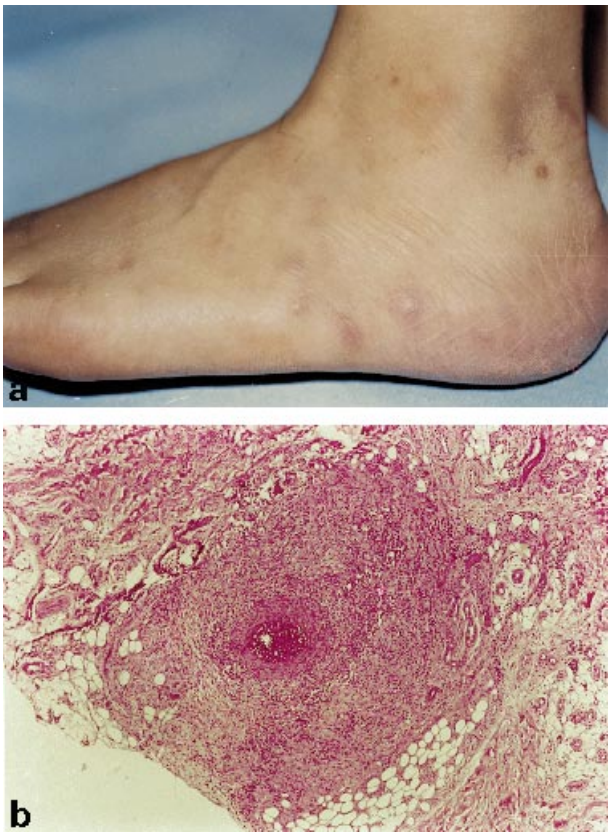


Figure 1. (a) Painful erythematous nodules over the lateral margin of left foot. (b). Necrotizing arteritis with neutrophils and mononuclear cells infiltration in the subcutis. Mild panniculitis around the involved vessel is also noted (haematoxylin and eosin, original magnification ×100).

described,[6,7] although some of these are uncommon. A vasculitis is frequently seen on histology. It predominantly involves the venous compartment and shows relative sparing of the arterial compartment with the exception of the arterioles in the papillary dermis.[2] In the present case, the clinical appearance of nodules on the sole margins as well as the histological findings suggest necrotizing arteritis characteristic of cutaneous polyarteritis nodosa. The existing diagnosis of Behçet's disease and the contemporaneous outset of the subcutaneous nodules and the orogenital ulcers suggest that the cutaneous polyarteritis nodosa-like lesion is a skin manifestation of Behçet's disease and not an unrelated phenomenon.

Behçet's disease is a systemic vasculitis. Up to 35% of patients develop large-vessel arterial and venous complications. Involvement of the arterial main trunk or arteries in vital organs, as in neurological Behçet's disease, is usually associated with a poor prognosis.[8] In our patient, the cutaneous nodule was associated with arterial involvement and the disease seemed to have a neurological component.

*Departments of Dermatology and *Pathology,* Y-H.Liao
National Taiwan University Hospital, G-H.Hsiao
7 Chung-Shan South Road, C-H.Hsiao*
Taipei, Taiwan

References

1 Shimizu T, Ehrlich GE, Inaba G. Behçet's disease (Behçet's syndrome). *Semin Arthritis Rheum* 1979; **8:** 223–60.
2 Chen KR, Kawahara Y, Miyakawa S, Nishikawa T. Cutaneous vasculitis in Behçet's disease: a clinical and histopathologic study of 20 patients. *J Am Acad Dermatol* 1997; **36:** 689–96.
3 Diaz-Perez JL, Winkelmann RK. Cutaneous periarteritis nodosa. *Arch Dermatol* 1974; **110:** 407–14.
4 International Study Group for Behçet's disease. Criteria for diagnosis of Behçet's disease. *Lancet* 1990; **335:** 1078–80.
5 Behçet's Disease Research Committee of Japan. Behçet's disease: guide to diagnosis of Behçet's disease. *Jpn J Ophthalmol* 1974; **18:** 291–4.
6 Magro CM, Crowson AN. Cutaneous manifestations of Behçet's disease. (Review.) *Int J Dermatol* 1995; **34:** 159–65.
7 King R, Crowson AN, Murray E, Magro CM. Acral purpuric papulonodular lesions as a manifestation of Behçet's disease. *Int J Dermatol* 1995; **34:** 190–2.
8 Huong DLT, Wechsler B, Papo T *et al.* Arterial lesions in Behçet's disease. A study in 25 patients. *J Rheumatol* 1995; **22:** 2103–13.

Acute suppurative ringworm (kerion) caused by *Trichophyton rubrum*

Sir, Zoophilic fungi are the usual causative organisms of a kerion.[1] *Trichophyton rubrum*, an anthropophilic fungus found world-wide, is a common cause of tinea unguium, tinea pedis and tinea corporis, but has not been reported to cause a kerion in the U.K.[2] We describe three patients in whom *T. rubrum* was the causative agent of a kerion. All three were in good health, afebrile and not known to be immunosuppressed. There was no history of animal contact or travel abroad. In all three cases, the diagnosis of a kerion was made on clinical features. There was no evidence of tinea infection at other body sites and bacterial cultures of skin swabs were negative.

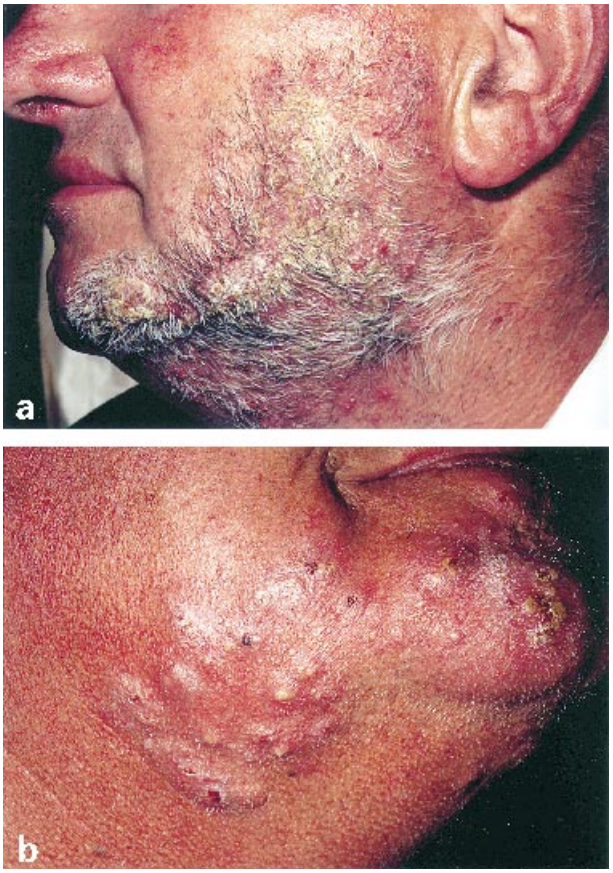


Figure 1. (a) An extensive crusted pustular plaque is evident on the chin and left cheek (patient 1). (b) A well-demarcated erythematous plaque with predominantly peripheral pustulation is seen over the right mandible (patient 2).

Patient 1. A 65-year-old man presented with a 2-month history of a painful lesion on the left side of the jaw. The initial diagnosis by his general practitioner was that of insect bites. He was treated with a 2-week course of oral oxytetracycline. This was changed to oral co-amoxiclav and topical mupirocin ointment for a further 2 weeks. When the lesion failed to settle, he was given a 5-day course of oral famciclovir, prior to referral. On examination, there was confluent erythema, crusting and pustulation forming a plaque covering the beard area of the left cheek and chin. As the area was tender, the patient was unable to shave (Fig. 1a). There was palpable, tender, left-sided, cervical lymphadenopathy.
Patient 2. A 63-year-old man presented with a 6-month history of an enlarging painful plaque on the right mandible. His general practitioner had considered this to be bacterial folliculitis and had treated him with a long course of oral flucloxacillin. On examination, there was a well-defined erythematous plaque surmounted by pustules and nodules, which were most noticeable at the periphery. There was no lymphadenopathy (Fig. 1b).
Patient 3. A 74-year-old man presented with a 2-month history of skin irritation affecting his right cheek. The lesion

had steadily increased in size and had become painful. He had had no previous treatment prior to referral. Examination revealed an inflammatory crusted plaque on the right cheek, evenly covered by small pustules.

Skin scales from the kerion were examined directly in 20% potassium hydroxide on a microscope slide under the ×10 and ×40 objectives. Hyphae were noted in the samples. The remaining material was cultured on 4% malt extract with cycloheximide and chloramphenicol. Within 7–10 days, white, velvety colonies with red pigment on the reverse were seen. Microscopically, tear-shaped microconidia were present along the sides of the hyphae. These are the typical features of *T. rubrum*.

Patients 1 and 2 received treatment with oral terbinafine, 250 mg daily for 3 and 6 weeks, respectively. Patient 3 was treated with oral itraconazole, 200 mg daily for 4 weeks. In all three cases there was complete resolution of the disease with no destruction of hair follicles.

Prior to World War II, there was a high prevalence of *T. rubrum* in South-east Asia, with relatively few cases in Europe. Over time, this has changed and the prevalence of *T. rubrum* in Europe has increased significantly.[3] In general, *T. rubrum* causes a superficial infection of the stratum corneum and rarely the hair shaft.[1] However, it can occasionally penetrate to deeper structures causing inflammation and a granulomatous response. There are no documented cases from the U.K. of *T. rubrum* causing a kerion, but there are reports of this occurring in Canada, South-east Asia and the U.S.A.[4–8] Although *T. rubrum* appears to be a rare cause of kerion at present, with the changing epidemiology of dermatophytes in the U.K., dermatologists should be aware that anthropophilic fungi can cause kerion.

Department of Dermatology,
Southern General Hospital,
1345 Govan Road,
Glasgow G51 4TF, U.K.
Department of Dermatology,
Western Infirmary,
Dumbarton Road,
Glasgow G11 6NT, U.K.

G.Gupta
A.D.Burden*
D.T.Roberts

References

1 Hay RJ, Roberts SOB, MacKenzie DWR. Mycology. In: *Textbook of Dermatology* (Champion RH, Burton JL, Ebling FJG, eds.), 5th edn, Vol. 2. Oxford: Blackwell Scientific Publications, 1992; 1134–61.
2 Kemna ME, Elewski BE. A US epidemiologic survey of superficial fungal diseases. *J Am Acad Dermatol* 1996; **35:** 539–42.
3 Rosman N. Infections with *Trichophyton rubrum*. *Br J Dermatol* 1966; **78:** 208–12.
4 Saksun JM, Kane J. Tinea barbae kerion caused by *Trichophyton rubrum*. *Mod Med Can* 1981; **36:** 62–5.
5 Sanyal M, Basu N, Thammayya A. *Trichophyton rubrum* as the cause of kerion. *Bull Calcutta School Trop Med* 1970; **18:** 45–6.
6 Dutta AK. A case of kerion with *Trichophyton rubrum*. (Letter.) *Indian J Dermatol* 1975; **20:** 65.
7 Imamura S, Tanaka M, Watanabe S. Use of immunofluorescence staining in kerion. *Arch Dermatol* 1975; **111:** 906–9.
8 Weber WE, Ulrich JA. Kerion caused by *Trichophyton rubrum*. *Arch Dermatol Syphilol* 1952; **66:** 624–6.

Cutaneous sarcoid foreign body granulomas developing in sites of previous skin injury after systemic interferon-alpha treatment for chronic hepatitis C

Sir, A 60-year old woman presented with a brownish-red maculopapular eruption of 4 months' duration on the extensor side of her knees. She had first noticed the lesions in December 1996 after 4 months' subcutaneous treatment

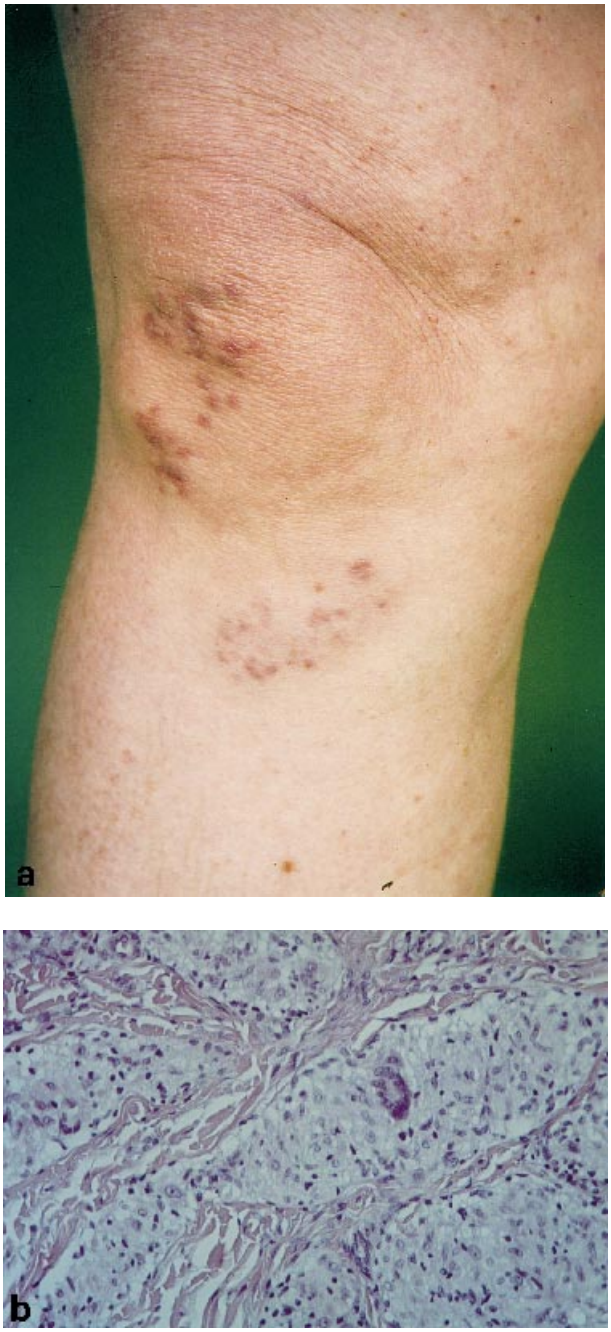


Figure 1. (a) Brownish-red maculopapular lesions are seen on and just below the knee. (b) Photomicrograph showing multiple epithelioid cell granulomas (haematoxylin and eosin; original magnification ×200).

with interferon alpha-2a (Roferon®, Roche, Grenzach-Wyhlen, Germany), 6 million IU three times a week, because of chronic active hepatitis C. Interferon treatment was continued until February 1997. The patient had had an accident in childhood, resulting in erosions on her knees. Examination in March 1997 revealed multiple, brownish-red maculopapular lesions, about 5 mm in diameter, on and just below both knees (Fig. 1a). Diascopy showed a lupoid infiltrate.

Routine serum biochemical analysis was normal except for the serum gammaglutamyl transpeptidase, elevated at 33 U/L (normal <18), alanine aminotransferase 60 U/L (normal <17) and aspartate aminotransferase 48 U/L (normal <15). Serum angiotensin-converting enzyme was elevated at 108 U/L (normal 18–55), supporting the diagnosis of sarcoidosis. Antibodies to hepatitis C virus were present. Histological investigation of a biopsy of the lesion revealed a normal epidermis with orthohyperkeratosis. Multiple epithelioid cell granulomas surrounding double refractile material were observed in the middle and lower dermis (Fig. 1b). A routine chest X-ray was normal. Ophthalmological examination including both slit-lamp and fundus examination showed no ocular involvement. Abdominal ultrasound examination revealed hepatosplenomegaly, but a liver biopsy did not reveal granulomas.

From April 1997, the dose of interferon alpha-2a was reduced to 3 million IU three times a week, and the skin lesions were treated with a topical corticosteroid film containing fludroxycortide (Sermaka-Folie®, Lilly, Bad Homburg, Germany) for several weeks, resulting in gradual improvement. To our knowledge, this is the first case of cutaneous sarcoid foreign body granulomas developing in a previously injured skin site (containing foreign body material) during interferon alpha treatment of chronic active hepatitis C.

Interferons have antiviral, antigrowth and immunomodulatory effects and are therefore used to treat various internal and dermatological diseases. Solid tumours, malignant melanoma, basal cell carcinoma, cutaneous T-cell lymphoma, Kaposi's sarcoma, haematological neoplasms (chronic myelogenous leukaemia, hairy-cell leukaemia, multiple myeloma and non-Hodgkin's lymphoma) and chronic active hepatitis B and C have been treated with interferons. Well-known acute side-effects of interferon treatment are hypotension, hypertension, tachycardia, headache, gastrointestinal disorders and influenza-like symptoms presenting as fever, chills, fatigue, myalgia and arthralgia. It is known that interferons may lead to exacerbation of autoimmune diseases such as systemic lupus erythematosus, autoimmune haemolytic anaemia, thyroiditis and rheumatoid arthritis. Local cutaneous reactions have been reported at sites of injection of interferons. Interferon alpha injections have induced cutaneous necrosis in patients with AIDS-related Kaposi's sarcoma and a patient with chronic myelogenous leukaemia. Necrotizing cutaneous lesions have also been seen at sites of injection of intereferon beta-1b in multiple sclerosis.[1]

A probable induction of sarcoidosis by interferons was first described by Abdi *et al.* in a patient receiving interferon beta as a treatment for renal cell carcinoma.[2] To date, 16 further cases (including the present case) have been published, suggesting an association of sarcoidosis following interferon treatment.[3–11] About half of the cases showed cutaneous involvement, mostly combined with pulmonary sarcoidosis. The skin was the only organ affected in only three cases. The interval after onset of treatment varied between 5 weeks and 49 months. Patients over 45 years were affected more often than younger patients. In almost half the patients, chronic hepatitis C was the reason for starting interferon treatment. Interferon alpha was given in 15 cases, interferon beta in two cases and interferon gamma in one case together with interferon alpha.

It is assumed that an exaggerated T helper (Th) 1 immune response to a variety of exogenous antigens or autoantigens is present in patients with sarcoidosis. Hepatitis C virus may be one of the antigens that may, in combination with interferons, lead to this multisystem granulomatous disorder. As interferon alpha regulates Th cell differentiation by suppression of Th2 activation and induction of interferon gamma production, interleukin 12 receptor expression and interleukin 12 signalling, it has been suggested that this potent immunoregulatory protein for Th1 response plays a part in the pathogenesis of sarcoidosis.[11] On the other hand, an association between the systemic disease and sarcoidosis may be more likely than an association with interferon treatment. Leukaemia, myeloma, lymphoma and renal cell carcinoma have been associated with sarcoidosis, but for hepatitis C no association with sarcoidosis has been described. It is, however, known that particulate foreign matter may serve as a focus for granuloma formation in cutaneous sarcoidosis,[12] as occurred in our patient. In the three patients in whom the skin was the only organ affected, treatment with topical glucocorticosteroids and reduction of the interferon dose was sufficient to produce improvement. In those with systemic sarcoidosis, treatment with oral prednisolone, in some cases with discontinuation of interferon treatment, was necessary. As the use of interferons increases, cutaneous sarcoid granulomas may become more frequent.

Klinik und Poliklinik für Dermatologie und Allergologie am Biederstein, Technische Universität München, Biedersteiner Str. 29, D-80802 Munich, Germany

B. Eberlein-König
R. Hein
D. Abeck
R. Engst
J. Ring

References

1 Weinberg JM, Wolfe JT, Sood S *et al.* Cutaneous necrosis associated with recombinant interferon injection. Report of three cases with interferon beta-1b and review of the literature. *Acta Derm Venereol (Stockh)* 1997; **77:** 146–8.

2 Abdi EA, Nguyen GK, Ludwig RN *et al.* Pulmonary sarcoidosis following interferon therapy for advanced renal cell carcinoma. *Cancer* 1987; **59:** 896–900.

3 Wandl UB, Kloke O, Nagel-Hiemke M *et al.* Combination therapy with interferon alpha-2b plus low-dose interferon gamma in pretreated patients with Ph-positive chronic myelogenous leukaemia. *Br J Haematol* 1992; **81:** 516–19.

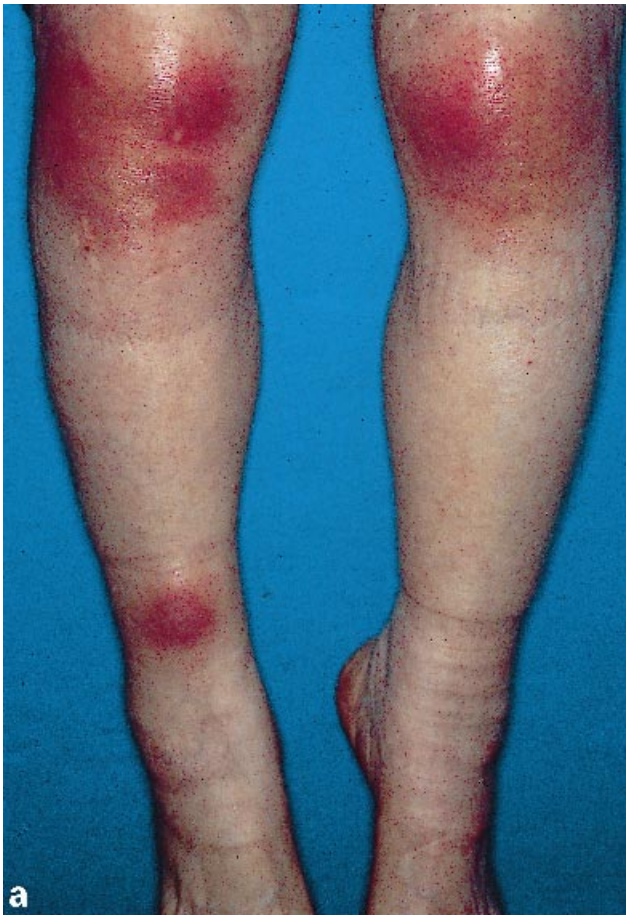
4 Blum L, Serfaty L, Wattiaux MJ *et al.* Nodules hypodermiques sarcoidosiques au cours d'une hépatite virale C traitée par Interféron alpha 2b. *Rev Med Intern* 1993; **14:** 1161 (in French with English abstract).
5 Bobbio-Pallavicini E, Valsecchi C, Tacconi F *et al.* Sarcoidosis following beta-interferon therapy for multiple myeloma. *Sarcoidosis* 1995; **12:** 140–2.
6 Ohhata I, Ochi T, Kurebayashi S *et al.* A case of subcutaneous sarcoid nodules induced by interferon-alpha. *Nippon Kyobu Shikkan Gakkai Zasshi* 1994; **32:** 996–1000 (in Japanese with English abstract).
7 Nakajima M, Kubota Y, Miyashita N *et al.* Recurrence of sarcoidosis following interferon alpha therapy for chronic hepatitis C. *Intern Med* 1996; **35:** 376–9.
8 Teragawa H, Hondo T, Takahashi K *et al.* Sarcoidosis after interferon therapy for chronic active hepatitis C. *Intern Med* 1996; **35:** 19–23.
9 Otte HG, Hartig C, Stadler R. Sarkoidose bei Interferon-alpha Therapie. *Hautarzt* 1997; **48:** 482–7 (in German with English abstract).
10 Yavorkovsky LL, Carrum G, Bruce S *et al.* Cutaneous sarcoidosis in a patient with Philadelphia-positive chronic myelogenous leukemia treated with interferon-α. *Am J Hematol* 1998; **58:** 80–1.
11 Hoffmann RM, Jung M, Motz R *et al.* Sarcoidosis associated with interferon-α therapy for chronic hepatitis C. *J Hepatol* 1998; **28:** 1058–63.
12 Val-Bernal JF, Sánchez-Quevedo MC, Corral J *et al.* Cutaneous sarcoidosis and foreign bodies: an electron probe roentgenographic microanalytic study. *Arch Pathol Lab Med* 1995; **119:** 471–4.

Radiation-induced erythema nodosum

Sir, Radiation therapy can cause various cutaneous adverse reactions, with radiation dermatitis being the most common. Erythema multiforme can also be induced by radiation therapy,[1–3] but few occurrences have been reported.[4,5] We report a patient with erythema nodosum induced by intracavital radiation for vaginal squamous cell carcinoma.

A 79-year-old woman was diagnosed as having squamous cell carcinoma of the vagina in January 1997, and received external telecobalt radiation to a total dose of 50·4 Gy over 38 days. Subsequently, she had intracavital ^{137}Cs radiation for 2 days in March 1997. The next morning, about 16 h after the second irradiation, several painful, well-circumscribed, red-brown, indurated areas of erythema, 6–12 cm in diameter, appeared on both knees, the right leg and the right forearm (Fig. 1a).

A skin biopsy specimen showed a septal panniculitis (Fig. 1b). Direct immunofluorescent staining for IgG, IgM, IgA, C3, C4 and C1q was negative. A full blood count was normal except for a white cell count (WCC) of $11{\cdot}2\times10^9$/L (normal: 4–9), C-reactive protein was 12·2 mg/mL (normal: <0·6), gamma glutamyl transpeptidase was slightly elevated at 59 i.u./mL (normal 5–24), and the erythrocyte sedimentation rate (ESR) was 109 mm in the first hour (normal: <20). The serum levels of C3, C4, CH50, C1q, IgG, squamous cell carcinoma-related antigen and antistreptolysin titre were all normal, as was the chest X-ray. Throat culture showed normal flora, and the tuberculin test was negative. She had not had a sore throat, acute upper respiratory illness or diarrhoea, and had taken no medication. The erythema resolved after 3 weeks, leaving slight brownish pigmentation.



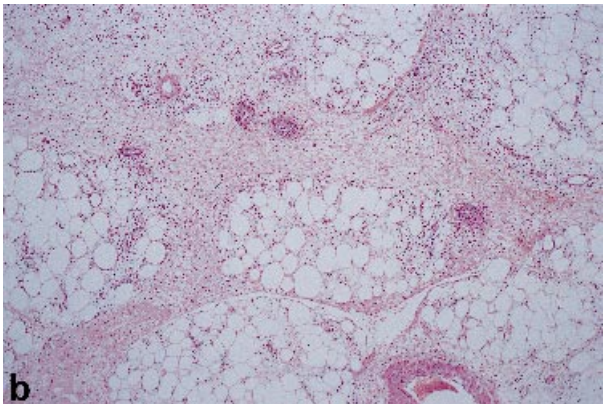


Figure 1. (a) Well-circumscribed areas of indurated erythema are seen on the legs (these appeared after the first dose of intracavital ^{137}Cs). (b) Photomicrograph showing oedema and fibrosis in the septal wall, with perivascular infiltration of inflammatory cells (predominantly neutrophils), indicating a septal panniculitis (haematoxylin and eosin; original magnification, ×400).

Early in April 1997, she underwent a second session of intracavital ^{137}Cs radiation and, 5 days later, a similar indurated erythema again developed on both legs. The WCC and ESR were slightly elevated. She had two more sessions of intracavital ^{137}Cs radiation, later in April 1997 and early in May 1997, but no erythema developed on either occasion.

Erythema nodosum has various causes, including tuberculosis, leprosy, other infections (streptococcal, viral, chlamydial or fungal), sarcoidosis, inflammatory bowel disease, internal malignancy, leukaemia, radiation therapy for malignancy, drugs and Behçet's disease. In our patient, the vaginal carcinoma itself may have induced erythema nodosum. However, it developed soon after intracavital radiation, making it more likely that the erythema nodosum was related to radiation therapy.

An immunological mechanism is widely accepted as being involved in the pathogenesis of erythema nodosum, although the aetiology still remains unknown.[5,6] Immune complex formation and activation of complement seem to play an important part in its pathogenesis. In our patient, we speculate that breakdown products of cancer cells destroyed by intracavital radiation might have activated circulating antibodies and complement to form immune complexes. Deposition of such immune complexes in blood vessels in the subcutaneous fat may then have caused infiltration of neutrophils. However, our patient showed no evidence of the deposition of antibodies or complement in her skin lesions. This may have been because of the time lag between the onset of erythema nodosum and biopsy. Alternatively, the tumour breakdown products may have directly activated complement and thus caused vascular damage. Erythema nodosum did not recur after the third and fourth sessions of intracavital radiation. It is possible that the residual carcinoma was no longer large enough to release sufficient breakdown products or antigens to induce erythema nodosum.

Department of Dermatology, S.Takagawa
School of Medicine, S.Nakamura
Tokyo Medical and Dental University, H.Yokozeki
1-5-45 Yushima Bunkyo-ku, K.Nishioka
113-8519 Tokyo, Japan,
E-mail: takagawa.derm@med.tmd.ac.jp

References

1 Davis J, Pack GT. Erythema multiforme following deep X-ray therapy. *Arch Dermatol Syph* 1952; **66:** 41–8.
2 Burkhart CG, Smith MR. Erythema multiforme induced by radiotherapy. (Letter.) *J Am Acad Dermatol* 1980; **3:** 94.
3 Svensson C. Erythema multiforme in a patient receiving radiation therapy—a case report. *Acta Oncol* 1991; **30:** 396–7.
4 Maxfield WS, Coleman WP. Cutaneous reactions after radiation therapy. *Am J Roentgenol Radium Ther Nuclear Med* 1969; **105:** 636–43.
5 Ryan TJ. Erythema nodosum. In: *Textbook of Dermatology* (Champion RH, Burton JL, Ebling FJG, eds), 5th edn, Vol. 3. Oxford: Blackwell Scientific Publications, 1992; 1931–8.
6 Benoldi EE, Benoldi GS. Erythema nodosum. In: *Dermatology in General Medicine* (Fitzpatrick TB, Eisen AZ, Wolff K *et al.* eds.), 4th edn, Vol. 1. New York: McGraw-Hill Inc., 1993; 1338–40.

Pyogenic granuloma as a complication of cryosurgery for venous lake

Sir, We read with interest the article by Suhonen and Kuflik,[1] in which the authors stated that liquid nitrogen cryosurgery gives excellent results in the treatment of lip venous lakes. We report the occurrence of a pyogenic granuloma after liquid nitrogen cryosurgery for a venous lake of the right oral commissure.

A 52-year-old man was referred because of a dark blue, soft, slightly raised papule, 5 × 4 mm in diameter, on the vermilion border at the right angle of the mouth. The clinical diagnosis was venous lake, and he underwent a single treatment with liquid nitrogen cryosurgery. The freeze was for 15 s by the direct application of a precooled metal cryoprobe. After thawing, the patient was instructed to apply an antimicrobial ointment daily to the treated area for a few days.

A month later, on his return visit, we observed an indolent, bright red, papillomatous lesion of 5 mm in diameter, with a

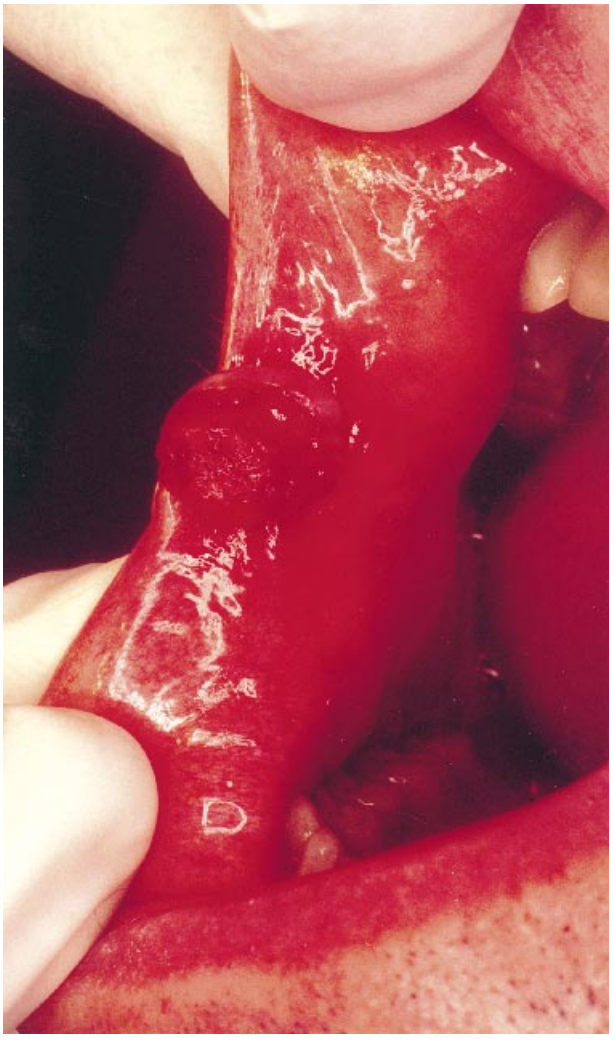


Figure 1. Pyogenic granuloma of the right oral commissure which developed after liquid nitrogen cryosurgery.

pedunculated base at the previous site of the venous lake (Fig. 1). The patient stated that the lesion had developed approximately 10 days after cryosurgery, had grown rapidly and bled easily when traumatized. There was no history of additional injury or infection. The lesion underwent surgical excision, and histological examination confirmed the clinical diagnosis of pyogenic granuloma. At 6 months follow-up, there was no evidence of recurrence of the venous lake or the pyogenic granuloma.

Pyogenic granuloma is a common vascular nodule that may occur on the skin and mucous surfaces, especially during childhood or early adult life. It often develops at the site of a pre-existing injury. The original nature is still controversial. However, most authors now believe that this vascular proliferation is a reactive and hyperplastic condition, rather than a true neoplasm.[2] The development of a pyogenic granuloma after cryosurgery has to date been reported in two patients, one who presented with a basal cell carcinoma and another who had an actinic keratosis.[3,4] Another patient developed a pyogenic granuloma after cryosurgery followed by local application of 27% salicylic acid for verruca vulgaris,[5] although, in this case, a co-causative role for salicylic acid therapy cannot be excluded. However, the occurrence may not be as infrequent as the literature suggests, and it is mentioned in one standard textbook.[6]

Department of Dermatology, R.Cecchi
Spedali Riuniti, A.Giomi
51100 Pistoia, Italy

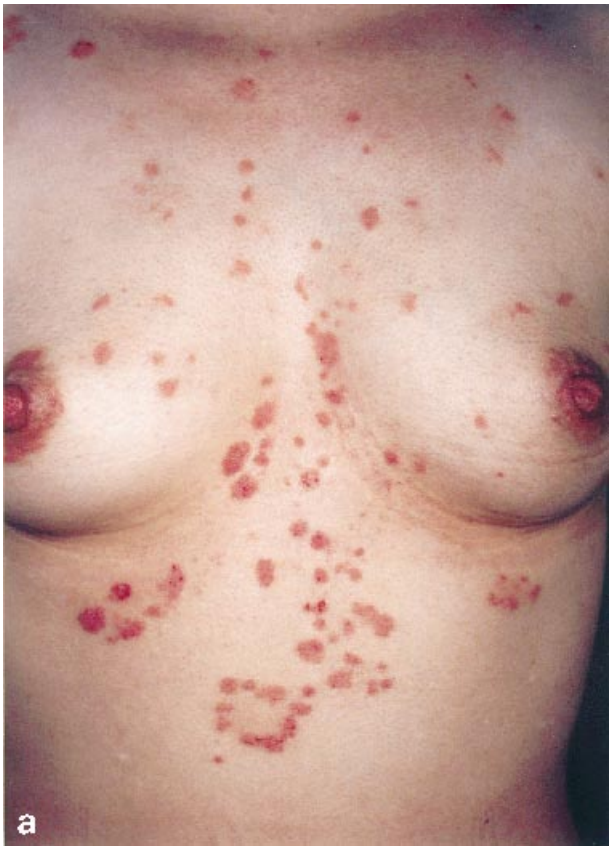
References

1 Suhonen R, Kuflik EG. Venous lakes treated by liquid nitrogen cryosurgery. *Br J Dermatol* 1997; **137:** 1018–19.
2 Requena L, Sangueza OP. Cutaneous vascular proliferations. Part II. Hyperplasias and benign neoplasms. *J Am Acad Dermatol* 1997; **37:** 887–919.
3 Greer KE, Bishop GE. Pyogenic granuloma as a complication of cryosurgery. *Arch Dermatol* 1975; **111:** 1536–7.
4 Elton RF. Complications of cutaneous cryosurgery. *J Am Acad Dermatol* 1983; **8:** 513–19.
5 Kolbusz RV, O'Donoghue MN. Pyogenic granuloma following treatment of verruca vulgaris with cryotherapy and Duoplant. (Letter.) *Cutis* 1991; **47:** 204.
6 Zacarian SA. Complications, indications and contraindications in cryosurgery. In: *Cryosurgery for Skin Cancer and Cutaneous Disorders.* St Louis: CV Mosby, 1985; 283–97.

Coexistence of psoriasis and familial benign chronic pemphigus: efficacy of ultraviolet B treatment

Sir, Ultraviolet (UV) irradiation has been considered to be a provocative factor in familial benign chronic pemphigus (FBCP).[1–3] We describe a Japanese woman with coexistent psoriasis and FBCP. Psoriatic plaques over the trunk and limbs, showing histological features of both diseases, were successfully treated with UVB irradiation.

A 23-year-old Japanese woman presented with an extensive itchy eruption which she had had for 7 years. On examination, erythematous scaly plaques were scattered on the trunk and limbs. They tended to be grouped in an annular fashion in some places (Fig. 1a). A clinical diagnosis of psoriasis was made. Histology of a biopsy from a plaque lesion on the upper



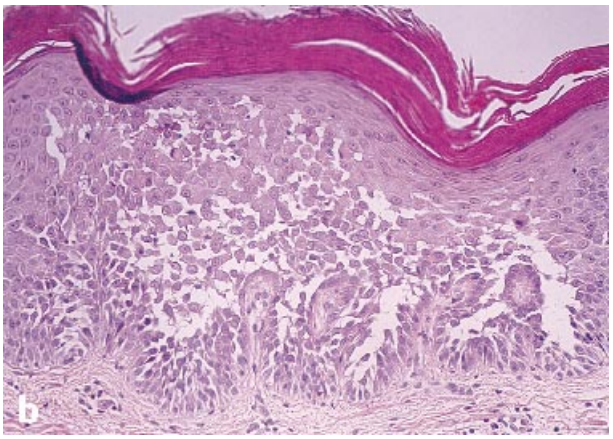


Figure 1. (a) Erythematous scaly plaques are scattered on the trunk. They tend to be grouped in an annular fashion. (b) Parakeratosis, Munro microabscesses, an absence of granular cells, and acanthosis are seen. In addition, there is suprabasal epidermal separation due to acantholysis, which affects large portions of the stratum malpighii (haematoxylin and eosin; original magnification, ×50).

arm showed parakeratosis, Munro microabscesses, an absence of granular cells, and acanthosis. In addition to these findings which are consistent with psoriasis, there was suprabasal epidermal separation due to acantholysis, affecting large portions of the stratum malpighii (Fig. 1b). There were erosive changes in both axillae, which the patient had noticed 6 months previously. Histology of a biopsy from the left axilla was consistent with FBCP. The patient's mother had had macerated lesions on the sides of the neck and axillae from the third decade. The coexistence of psoriasis and FBCP was diagnosed. Treatment of the psoriatic plaques with suberythemal UVB doses twice weekly produced an excellent response in 2 months.

The coexistence of psoriasis and FBCP has been previously reported.[4–7] In these reports, psoriatic plaques were distributed extensively over the trunk and limbs, and their development tended to precede the onset of typical FBCP in the flexural sites by many years. Previous reports have shown that on clinical grounds alone, it is often impossible to distinguish between psoriasis coexisting with FBCP and psoriasis occurring without FBCP. Histologically, psoriatic lesions in coexistent cases usually reveal typical features of both diseases. Generalized FBCP[8] can be excluded in these cases, because in this condition, there are multiple or confluent, oozing and crusted eruptions over extensive areas, and histological changes of psoriasis are not found. Psoriatic lesions in coexistent cases have been treated by a variety of measures. Therapy with UV irradiation was performed in two cases,[4,6] both in combination with coal tar ointment. It produced satisfactory improvement in one case,[4] while multiple erythematous lesions newly developed in the other.[6] There has been no previously reported case in which UV was used alone.

UV irradiation is known to give beneficial effects in patients with psoriasis, while in FBCP it has been thought to be a provocative factor. Cram *et al.*[1] used long-wave UV to provoke acantholytic changes in clinically normal members of one family. Suhonen and Niemi[2] performed provocation tests on normal-appearing skin of patients with FBCP using 5 or 15 minimal erythema doses (MED) of UV. Subsequently, Richard *et al.*[3] used 2–3 MED of UVB to identify genotypical carriers of FBCP. However, it had not been previously reported whether or not repeated suberythemal UVB irradiation induces microscopic changes of FBCP.

We chose phototherapy in this case, because the patient reported that sunlight always helped her condition, and that she had tried topical betamethasone valerate without benefit. The suberythemal UVB therapy gave rapid improvement of the psoriatic plaques without any adverse reactions. Although biopsy was not performed after UVB treatment, it seems unlikely on clinical grounds that microscopic changes of FBCP observed in psoriatic plaques were exacerbated by UVB irradiation. Our observations suggest that in patients with FBCP, suberythemal UVB treatment may be valuable for coexistent conditions in which phototherapy is known to be effective. PUVA therapy might also offer beneficial effects.

Department of Dermatology, K.HAYAKAWA
Kyorin University School of Medicine, T.SHIOHARA
6-20-2 Shinkawa,
Mitaka, Tokyo 181-8611, Japan

References

1 Cram MDL, Muller SA, Winkelmann RK. Ultraviolet-induced acantholysis in familial benign chronic pemphigus. *Arch Dermatol* 1967; **96:** 636–41.
2 Suhonen R, Niemi K-M. Ultraviolet light in familial benign chronic pemphigus. *J Cutan Pathol* 1979; **6:** 414–17.
3 Richard G, Linse R, Harth W. Morbus Hailey-Hailey. Fruherfassung von Merkmalsträgern durch einen UV-Provokationstest—klinische Relevanz der Methode. *Hautarzt* 1993; **44:** 376–9.
4 Morales A, Livingood CS, Hu F. Familial benign chronic pemphigus. *Arch Dermatol* 1966; **93:** 324–8.
5 Fisher I, Orkin M, Bean S. Familial benign chronic pemphigus and psoriasis vulgaris in the same patient. *Acta Derm Venereol (Stockh)* 1967; **47:** 111–17.
6 Heaphy MR, Winkelmann RK. Coexistence of benign familial pemphigus and psoriasis vulgaris. *Arch Dermatol* 1976; **112:** 1571–4.
7 Boxley JD, Byrne JPH, Summerly R. Bi-directional isomorphism: coexistence of psoriasis vulgaris and familial benign chronic pemphigus. *Arch Dermatol* 1977; **113:** 846–7.
8 Marsch WC, Stüttgen G. Generalized Hailey-Hailey disease. *Br J Dermatol* 1978; **99:** 553–9.

Treatment of psoriasis: day care vs. inpatient therapy

SIR, There has been a reduction in dermatology beds countrywide and demands for dermatology services have increased.[1] As a consequence, many dermatology departments have now set up day-care treatment centres for the treatment of psoriasis or eczema, which would previously have required inpatient management. However, there is little information about the results and costs of such day-care centres. An audit was carried out in the Department of Dermatology at the Royal Hallamshire Hospital to assess the number of weeks of treatment required to clear psoriasis, the results of treatment and the cost for outpatient day care compared with ward admission.

Sixty patients with psoriasis were treated with short contact dithranol and broadband ultraviolet B (UVB) at the day centre from April 1995 to March 1996 (i.e. the first 12 months of opening). Data on these patients were obtained from the day centre treatment records. The hospital notes of these patients were examined to assess the response to treatment. The endpoint for psoriasis clearance was defined as 90% improvement. Data on comparable inpatients with psoriasis and their mean length of stay over the year April 1995 to March 1996, were obtained from the Central Sheffield University Hospitals NHS Trust's Department of Medical Information. The inpatients had been treated with Ingram regimen dithranol and broadband UVB. The costs of inpatient and outpatient treatment were calculated using current health economic data based on a survey of eight dermatology departments in the U.K.[2] The

costs included medical, domestic, portering, nurse staffing, catering, laundry, maintenance and site overheads, but not drugs. Patient costs were excluded.

The mean number of treatments performed on all the 60 patients with psoriasis treated in the day centre was 24·7 [95% confidence interval (CI) 20·1–29·1, median 21, range 5–86]. The mean length of time to clear was 8·3 weeks (median 7 weeks). Nine of the 60 patients reviewed failed to attend for follow-up, and data on the outcome of their treatment were unavailable. They were excluded from further analysis. Forty-four (86%) of the remaining patients achieved clearance or virtual clearance by the end of treatment. Seven patients (14%) failed to achieve clearance. They had a mean number of 41 treatments (median 39).Their mean length of treatment was 13 weeks (median 13 weeks). All of them subsequently cleared with other treatments, two with PUVA, one with acitretin and four with inpatient admission. Of the four who were admitted, one had had 84 treatments in the day centre before eventually coming into hospital. He had severe chronic plaque psoriasis and had been unable to tolerate PUVA, methotrexate, acitretin and hydroxyurea.

Forty-eight patients with psoriasis were treated on the ward as inpatients between April 1995 and March 1996. The mean length of hospital stay for an inpatient with psoriasis was 12·5 days. There were no treatment failures. The mean cost of treating a patient with psoriasis on a day-care basis was £1186 (95% CI: £971–1401). The mean cost to treat a patient with psoriasis as an inpatient in the same year was £2681 (95% CI: £2221–3141). The inpatients had a higher mean age of 49 years (median 54 years) compared with the outpatients, who had a mean age of 40 years (median 40 years). They also had more extensive disease, with 58% having more than two-thirds body surface area affected, 33% having one-third to two-thirds body surface area affected, and 9% having less than one-third body surface area affected. This is compared with only 33% of the outpatients who had more than two-thirds body surface area affected, 45% who had one-third to two-thirds body surface area affected and 22% who had less than one-third body surface area affected.

These data illustrate that clearing a patient's psoriasis in an outpatient treatment centre is considerably slower than clearance as an inpatient. The mean length of treatment was 8·3 weeks as an outpatient compared with 12·5 days as an inpatient. Those patients who failed to clear as outpatients had to endure a mean length of treatment of roughly 3 months before starting second-line therapy or being admitted to clear their psoriasis. Although the mean cost of treating a psoriatic patient on a day-care basis was approximately half that of treatment on an inpatient basis, most of the cost of inpatient care was due to the subject taking up a medical bed. Currently, our department is unable to recoup these savings. In this audit we did not assess how patients perceived the day centre or how their attendance at this, or their period as an inpatient, affected the quality of their lives. However, there is already evidence that quality of life is improved by medical admission.[3]

In conclusion, day-care treatment of psoriasis may have a lower purchase cost but takes much longer than inpatient treatment, despite the fact that the inpatients tend to be older with more extensive disease. Cost should not be used as an argument for reducing the numbers of dermatology beds still further. Instead, ways of reducing the cost of inpatient care need to be found, the main cause of which is the cost of a medical bed. Furthermore, there are still occasional patients who fail to respond to treatment in a day centre or whose management is not possible in this setting, who will require admission for inpatient treatment. This is an additional important argument for retaining inpatient beds. Conventional inpatient therapy is still an essential therapeutic option in the management of skin disease. A larger randomized study would help assess the validity of our findings.

Department of Dermatology, S.E.Cockayne
Royal Hallamshire Hospital, M.J.Cork
Sheffield S10 2JF, U.K. D.J.Gawkrodger

References

1 Williams H. Increasing demand for dermatological services: how much is needed? *J R Coll Phys (London)* 1997; **31:** 261–2.
2 Davies L, Levell NJ, Munro C, Cork MJ. Short course cyclosporin for psoriasis: benefits, risks and costs (abstract). *Br J Dermatol* 1997; **137** (Suppl. 50): 53.
3 Kurwa H, Finlay AY. Dermatology inpatient admission greatly improves life quality. *Br J Dermatol* 1995; **133:** 575–8.

The bidet nail: a French variant of the worn-down nail syndrome

SIR, Over a 5-year period, three unrelated women, aged 30–55 years, presented with a remarkably similar nail disorder. Each had a dystrophy of the middle three fingernails of the dominant hand (all were right-handed). The thumbnail was completely spared and the little fingernail barely affected. The defect was triangular with its base lying at the free edge of the nail, where the thinning was maximal (Fig. 1). All were fastidious ladies in whom the desire for cleanliness verged on the obsessional. The rarity of this problem prompted speculation about the pathogenesis of the lesions. The three unrelated patients were housewives but shared no other occupation or hobby. Their obsessional cleanliness involved repeated trauma to the three middle fingers of the right hand. All three were excessively concerned about vaginal hygiene and had been traumatizing their nails against the glazed earthenware of the bidet.

Nail Disease Centre,
42, rue des Serbes,
06400 Cannes, France
R.BARAN
G.MOULIN*
**Hotel Dieu*
69002 Lyon, France

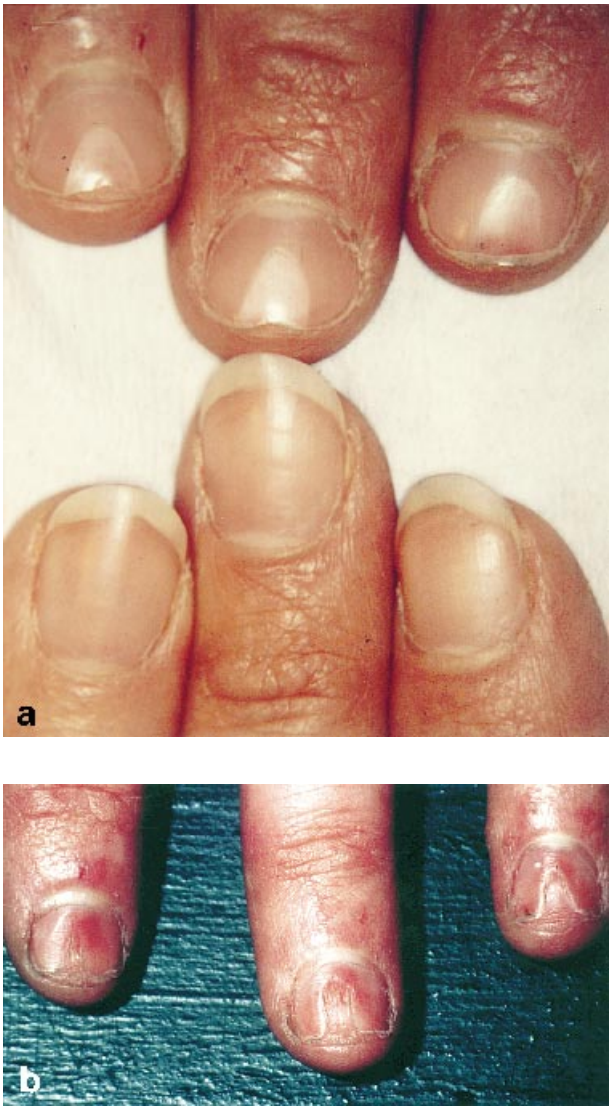


Figure 1. Aspects of the worn-down nails on the dominant hand in two of the patients (the right hand is uppermost in a).

Book Reviews

Handbook of Psoriasis C.CAMISA (1998) Oxford: Blackwell Science. ISBN 0-86542-558-2. 321pp.

The *Handbook of Psoriasis* is a summary of the larger text *Psoriasis* written by the same author and published in 1994. It covers the clinical presentation of psoriasis and briefly discusses what is known of the pathogenesis, but is largely occupied by details of the various therapeutic options that are available or being developed. The material has been extensively updated and the published literature on psoriasis since 1994 is referenced. New sections have been included describing treatment with vitamin D analogues, tacrolimus and newer investigational drugs. There are relatively few clinical photographs and these are mostly black and white. A helpful feature of the text is the presentation of much of the information on indications, contra-indications and monitoring of various forms of treamtent in tables.

This handbook aims to be a reference volume for the busy practitioner for which I am sure it will have a use. However I think that it will be particularly useful as an introductory text on psoriasis for those starting a career in dermatology. Several evenings reading this book in its entirety would be time well spent.

D.BURDEN

Epidemiology, Causes and Prevention of Skin Diseases Edited by J.J.Grob, R.S.Stern, R.M.MacKie and M.A.Weinstock (1997) Oxford: Blackwell Science. ISBN 0-632-04256-7. 384pp.

The publication of this excellent book reflects the importance that is now (rightly) being placed on the epidemiological aspects of skin disease. The editors set themselves the task of assembling the material at a conference held in Marseilles in 1995. At this meeting, many of the leading figures in the field were brought together, essentially for the first time to discuss the epidemiology and prevention of skin disease as a whole, rather than as hitherto, being seen as a part of events devoted to specific disease entities. In doing so, the team has laid a foundation that will, I believe, represent a milestone in epidemiological research and teaching in dermatology.

The editors need no introduction. Each has an international reputation for high-class research into various aspects of dermato-epidemiology. They have done their job well: they have brought together 79 contributors in total and the book offers comprehensive coverage of the current state of knowledge of many dermatological problems. On first inspection of the table of contents, I must confess that I wondered if the number of authors would lead to a significant degree of unevenness between chapters and sections. However, this does not seem to be the case and the book reads remarkably well, presumably because of a tight editing policy.

The book is divided functionally into 3 sections: Epidemiology and Prevention, Skin Cancer and Inflammatory Dermatoses (embracing psoriasis, atopic dermatitis, fungal infections, other infections, drug-induced skin disease and a miscellaneous collection of disorders such as auto-immune bullous diseases). The first section deals with overall principles of epidemiology and prevention. I would particularly single out an excellent chapter on the relationship between genetics and epidemiology. The other two major sections are sub-divided by disease entity and by specific topics within the disease area. For example, there are a number of chapters on different aspects of both melanoma and non-melanoma skin cancer. In the section on atopic dermatitis, there are mini-chapters on topics such as diagnostic criteria, socio-economics, diet and atopy, psychological factors, prevention and evening primrose oil (in which it is a shame, from my point of view, that word-processing resulted in my name being misprinted!).

This book must necessarily represent a baseline because research never stops adding to our knowledge, but there is more than enough here for it to provide a valuable resource for some years to come. It should be part of the purchase list of every trainee dermatologist and should be on the shelf of any self-respecting dermatology library.

R.Graham-Brown

Books Received

Textbook of Cosmetic Dermatology, 2nd edn R. Baron and H.J. Maibach (1998) London: Martin Dunitz. ISBN 1-85317-478-5. 700 pp.

Erratum

Goodyear, HM, Harper JI. Virus characterisation studies in eczema herpeticum. *Br J Dermatol* 1998; **138:** 545–6.

An incomplete list of authors was included with the above paper. The correct list is as follows:

Goodyear HM, McLeish P,* Buchan A* and Harper JI†
Birmingham Heartlands Hospital, Birmingham B9 5SS
*Department of Infection, University of Birmingham Medical School, Edgbaston, Birmingham
†Great Ormond Street Children's Hospital, London