Fig. 1. Deposits of complement C3 in a dermal vessel at the edge of a lesion from a patient with pyoderma gangrenosum.

inflammatory changes in the dermal vessel walls were found in all patients examined.

Inflammatory vascular changes produced by the deposition of immune complexes may be of importance for the development of PG.

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Patch Testing with Perfume Mixture

N. K. Veien, T. Hattel, O. Justesen and A. Nørholm

Dermatology Clinic, Vesterbro 99, DK-9000 Aalborg, Denmark

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Abstract. 145 of 1116 patients patch tested with the standard series of the International Contact Dermatitis Research Group, including the recently introduced perfume mixture, had positive patch test reactions to at least one of the traditional screening agents for fragrance allergy or to the perfume mixture. In 96 of the 145 patients the positive patch tests could be explained as bein related to fragrance allergy. The perfume mixture was considered a useful screening agent for fragrance allergy. However, the results indicate that it is still necessary to employ several screening agents to detect this type of hypersensitivity.

Fragrance components of cosmetics and industrial products are common contact allergens, and it is

Table I. *Number of patch tests positive for each of the fragrance screening agents*

	Total number of positive reactions $n=1\,116$	Reactivity among patients with positive patch tests which could be explained by or related to fragrance allergy $n=96$
Perfume mixture	92 (8.2%)	72 (75%)
Balsam of Peru	47 (4.2%)	40 (42%)
Wood tar	71 (6.4%)	49 (51%)
Colophony	16 (1.4%)	5 (5%)

suggested that allergy to perfumes is an increasing problem (5). Several compounds have been used for patch testing to detect this type of hypersensitivity (2, 3, 4). Wood tar, colophony and balsam of Peru are currently included in the standard patch test series recommended by the International Contact Dermatitis Research Group (ICDRG) in addition to the perfume mixture which was introduced recently. Calnan found positive patch tests to the perfume mixture in 6% of 2 461 patients routinely tested with this substance (1).

Results of patch tests carried out with the perfume mixture are reported in the following.

MATERIAL AND METHODS

From February 1, 1979, to March 31, 1980, 1 116 patients suspected of having contact dermatitis were patch tested with the standard series of the ICDRG, including the perfume mixture. The patch tests were usually applied to the upper back, in some cases to the upper arms. Finn-chambers® were used, and the tests were read after 48 hours, in doubtful cases also after 72 hours.

RESULTS

39 males and 106 females had positive patch tests to at least one of the traditional fragrance screening agents or to the perfume mixture. For 28 males and 68 females among these patients the history and treatment response indicated that the patch test results were related to fragrance allergy. The remainder of the patients could have hidden sources of exposure to perfumes; the test results could be related to substances other than perfumes, or they could be false-positive.

The patch test responses to the individual substances are listed in Table I. Weakly positive reactions (1+) were seen mainly when testing with wood tar (21 of the 71 patients and 13 of the 49 patients in Table I) and the perfume mixture (18 of the 92 and 11 of the 72 patients in Table I).

It can be seen from Table II that among the patients with patch tests positive for the perfume mixture alone, 15 of 31 patients had reactions which were unexplained with regard to perfume, while only 1 with this type of reactivity was found among 19 patients with patch tests positive for a combination of perfume mixture and balsam of Peru; there were 4 such reactions among 28 patients with patch tests positive for both perfume mixture and wood tar.

Table II. *Combined patch test results with screening agents for fragrance allergy*

	Reactivity among all patients $n=1\,116$	Reactivity among patients with positive patch tests which could be explained by or related to fragrance allergy $n=96$
Perfume mixture alone	31	16
Balsam of Peru alone	12	8
Wood tar alone	23	11
Colophony alone	11	4
Perfume mixture + balsam of Peru	19	18
Perfume mixture + wood tar	28	24
Perfume mixture + colophony	1	1
Perfume mixture + balsam of Peru + wood tar	13	13
Balsam of Peru + wood tar	3	1
Wood tar + colophony	4	0
Total number of positive reactions	145	96

COMMENT

The results indicate that the perfume mixture in the standard patch test series is a useful fragrance screening agent. There were, however, some patch test reactions which could not be explained, or were false-positive (Table II). The combined patch test results for the 96 patients in whom positive test results could be related to fragrance allergy (Table II) indicate that a number of fragrance allergies in this group would have been overlooked had only one of the screening agents been used. For purposes of routine testing, it is therefore still necessary to employ several screening agents to detect fragrance allergy.

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Lymphoma in Dermatitis Herpetiformis: Report on Four Cases

Timo Reunala, Heikki Helin,[1] Kirsti Kuokkanen and Tapani Hakala[2]

Departments of Dermatology, [1]Pathology and [2]Radiotherapy, University Central Hospital, SF-335 20 Tampere 52, Finland

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Abstract. Four patients suffering from protracted dermatitis herpetiformis (DH) developed lymphomas while undergoing gluten-free diet treatment. This had lasted between 6 months and 4 years. The first patient died of histiocytic lymphoma involving mesenterial lymph nodes, liver, spleen and blood marrow. The second patient died of histiocytic lymphoma disseminated in the ileum, colon, stomach and mesenterium. This patient had been operated on 14 years earlier for a solitary ulcerating lymphoma in the ileum. The third patient had a localized histiocytic lymphoma in the colon. This was successfully removed by hemicholectomy. The fourth patient had a lymphocytic lymphoma of B-cell origin in the inguinal lymph nodes which was treated with radiotherapy. These 4 patients with lymphomas suggest that, like coeliac disease patients, DH patients also run an increased risk of developing lymphomas.

Key words: Dermatitis herpetiformis; Coeliac disease; Lymphoma

The increased risk of developing lymphomas and gastrointestinal carcinomas is well documented in coeliac disease (CD) but it is not known whether a gluten-free diet (GFD) reduces this risk (11, 18). Dermatitits herpetiformis (DH) is very closely related to CD; most patients have a gluten-sensitive enteropathy, the same genetic (HLA) pattern and moreover, a strict GFD controls the rash in patients with DH (5, 13, 15).

Recently some lymphomas have been reported in DH patients on a normal diet, showing that this malignancy can also occur in DH (1, 4, 6, 7, 8). In this report we describe 4 patients with DH in whom the lymphomas were found during GFD treatment and discuss the relationship between DH and lymphomas.

CASE REPORTS

Case 1. A 31-year-old man had had DH for 10 years. This was controlled with 100 mg of dapsone daily. He then got abdominal pain, loose stools and his weight dropped by 18 kg. SGPT (101 U/l), SGOT (58 U/l) and bilirubin (48 μmol/l) were increased and therefore dapsone was stopped. An intense itch with many blisters developed and the diagnosis of DH was confirmed with routine histology and direct IF. Jejunal biopsy showed subtotal villous atrophy with no villi. GFD was started and after 2 months the rash was much better, although dapsone was still withdrawn.

After 6 months on a GFD he was again losing weight, had septic fever and elevated liver enzyme levels. The WBC was 1.3×10^9/l. Some atypical mononuclear cells were seen in peripheral and blood marrow smears (about 10% of all nucleated cells) and in aspiration biopsy specimens taken from the liver and spleen. A diagnosis of reticulum cell sarcoma, i.e. histiocytic diffuse type of malignant lymphoma (Rappaport) was made. The patient received two courses of cyclophosphamide, prednisone and vincristine with antibiotics. Blood marrow showed no response and he died soon after. At autopsy, malignant cells were found in the mesenterial lymph nodes, liver and spleen. The small-intestine mucosa was macrosopically normal but, due to autolysis, microscopic evaluation failed.

Case 2. A 50-year-old man had undergone an emergen-