Vegetating Iododerma and Pulmonary Eosinophilic Infiltration. A Simple Co-occurrence?

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Sir,

Iodine derivatives are used as contrast media in radiology and as drugs to treat pulmonary disorders as well as erythema nodosum (1, 2). Their use may cause side effects such as dysfunction of the thyroid and salivary glands or allergic reactions. Other side effects are the so-called 'iodides', skin eruptions, characterized by papules and pustules. These lesions can evolve towards characteristic nodules, seen in typical vegetating pyodermitis or iododerma (3). Recently, we observed a case of vegetating iododerma with noticeable pulmonary infiltration.

CASE REPORT

A 62-year-old woman presented with vegetating, soft nodular lesions sited on her ears and fingers (Figs 1 and 2). On the scalp there were crusts, whereas on the forearms and on the head there were several scattered papules, considered to be the initial sign appeared 2 months before our examination. Other specialists had herpes zoster as the diagnosis; however, treatment with acyclovir produced no clinical response.

At examination, the patient had fever (38°C), a mild dyspnoea and whistlings and wheezings. She had been suffering from allergic asthma for 20 years. Prick tests had been positive for house dust mite. Corticosteroids had been given systemically during acute relapses. Ten years earlier a therapy with potassium iodide 25% solution (20 drops three times per day) was started.

General laboratory tests showed leucocytosis (12,700 leucocytes/μl), eosinophilia (40.5%) and high ESR (90 mm/l h), while all the other tests were in the normal range.

A chest X-ray and CT scan showed several infiltrates in different pulmonary segments. The cytological exams on smears from broncho-alveolar washing revealed 70% eosinophils and 30% lymphocytes while tumour cells were absent.

Multiple cultures on material collected from cutaneous pustules and on the broncho-alveolar smears were negative for fungi, bacteria and mycobacteria. A skin biopsy was taken from a papular pustule on the left forearm. Histological examinations showed pseudoepitheliomatous superficial hyperplasia and a subepidermal pustule formed by neutrophils and eosinophils (Fig. 3). Intradermal skin tests with potassium iodide (50 μg in 1 ml of NaCl 0.9%), and human serum albumin plus potassium iodide (50 μg) were all negative after 30 min, 48 h and 72 h. Also the lymphocyte transformation test was negative. This test evaluates the proliferative

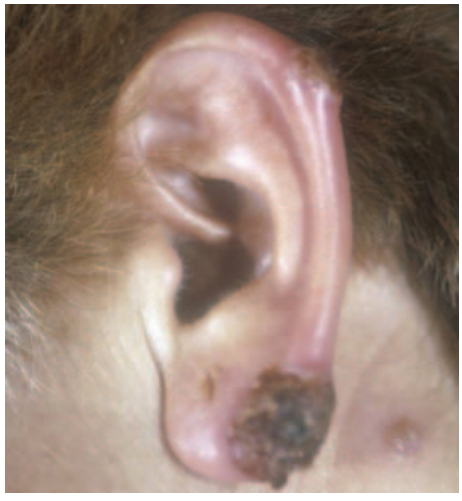

Fig. 1. Vegetating nodular lesion covered by crusts sited on left ear. In the retroauricular area a papulo-pustular lesion is present.

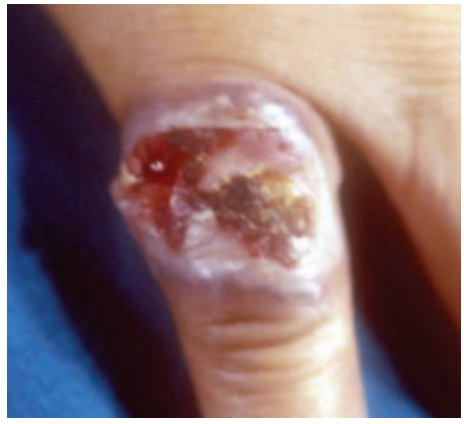

Fig. 2. Vegetating nodular lesion, partially ulcerated and covered by crusts, sited on the right little finger.

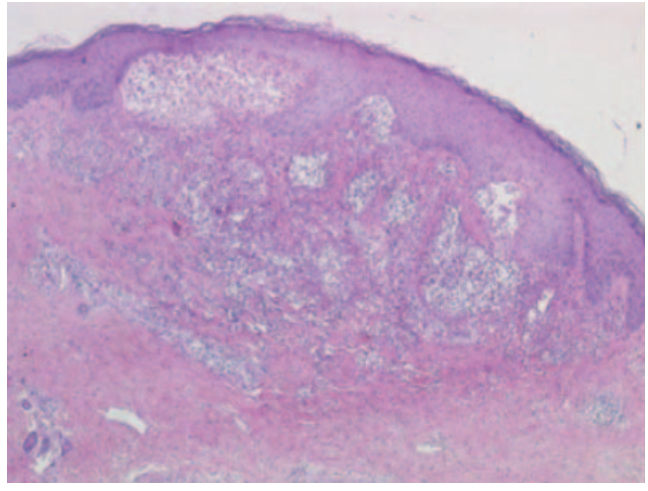

Fig. 3. Pseudoepitheliomatous superficial hyperplasia and a subepidermal pustule (haematoxylin and eosin, ×10).

activity of patient's lymphocytes after incubation with the same substances as in the skin tests, measuring the uptake of ^{3}H-thymidine.

Other tests, including serum electrophoresis, urinalysis and the faecal test for helminths were all negative.

The cutaneous lesions disappeared within 10 days from suspension of potassium iodide and administration of clarithromycin (250 mg per os twice daily for 20 days). Since respiratory symptoms persisted after clarithromycin, treatment with prednisolone was started at the dosage of 40 mg/day for 15 days, followed by 20 mg/day for 15 days. After 1 month her dyspnoea subsided and the pulmonary infiltrates regressed. No clinical relapses of vegetating iododerma occurred during the 12-month follow-up period, during which eosinophilia and ESR normalized, and the pulmonary infiltrates on X-ray disappeared.

DISCUSSION

Iododerma is a rare event nowadays, since iodine-containing drugs are infrequently used compared to in the past (1, 4). Cases of vegetating iododerma are occasionally reported (5–8). In its initial phase this disease is characterized by papules and pustules that evolve in pseudotumoral vegetating lesions. In our patient such lesions had appeared after 10 years of daily treatment with potassium iodide and promptly disappeared after its suspension.

Different pathogenetic hypotheses have been proposed to explain the onset of iododerma in patients exposed to contrast media or drugs containing iodine. An immunological mechanism was suggested by Rosenberg et al. (9) and Cape (10), due to the frequent presence of eosinophils in both skin lesions and in peripheral blood. On the contrary, Stone (11) hypothesized that iodine may directly activate eosinophils, which is more in line with our case as the specific immunological tests performed were all normal. Eosinophilia was present not only in peripheral blood but also in cutaneous and pulmonary lesions. After the suspension of potassium iodide this eosinophilia normalized.

Iododerma have been reported associated with multiple myeloma, lymphomas, arthritis, panarteritis nodosa and subacute glomerulonephritis (6). Also an association with pulmonary disorders has been reported (7, 8, 11–13). A very similar case to ours was reported by Wellenreuther et al. in 1987 (14), although they did not describe the pulmonary alterations in detail. In our case, CT scans revealed the presence of multiple pulmonary infiltrates, and the cytological examination of the broncho-alveolar washing smears showed the prevalence of eosinophils. As all laboratory examinations were negative for other underlying disorders, skin and pulmonary lesions may have a common aetiopathogenesis.

Clarithromycin was administered in our case, not only for the necessity of an antibiotic therapy to prevent severe pulmonary infection, but also for its well-known activity to inhibit the migration of eosinophils and to suppress bronchial hyper-responsiveness associated with eosinophilic inflammation in patients with asthma (15).

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