Chronic *Giardia intestinalis* Infection Presenting with Clinical Features Mimicking Lichen Planus

Camilla Vassallo, MD[1], Valeria Brazzelli, MD[1], Sara Martinoli, MD[1], Marco Ardigò, MD[1], Michela Quaglini, MD[1], Massimo Scaglia, MD[2] and Giovanni Borroni, MD[1]

[1]*Department of Dermatology and* [2]*Laboratory of Clinical Parasitology, University of Pavia, Policlinico S. Matteo-IRCCS, Piazza Golgi 2, 27100 Pavia, Italy. E-mail: cvassallo@yahoo.com*

Accepted May 11, 2001.

Sir,

Human giardiasis, caused by *Giardia intestinalis*, a flagellate protozoan parasite that colonizes the small bowel, is a worldwide infection (1). *Giardia* infection is usually asymptomatic but intestinal illness may occur (2–5). Several reports describe the association of allergy with increased levels of total serum IgE antibodies and of specific IgE antibodies against food allergens in patients affected by giardiasis, and *Giardia* infection may determine altered absorption of food antigens causing allergic sensitization (6). Cutaneous signs may be virtually indistinguishable from those of atopic dermatitis (7, 8). Acute reactions such as urticaria or asthma have also been described (9–11). We here report a patient affected by giardiasis, with lichen-planus-like lesions as the sole clinical feature.

CASE REPORT

A 64-year-old otherwise healthy woman was referred to the Department of Dermatology of the University of Pavia with an 8-month history of pruritic papular eruption, for which she had not taken any drugs. Physical examination revealed purplish, polygonal, flat-topped papules, with a tendency to confluence, localized on her wrists, abdomen, ankles and sacral region (Fig. 1). No mucosal involvement was present. A clinical diagnosis of lichen planus was suspected, and a 4-mm punch biopsy was performed. The histopathologic findings were characterized by superficial, deep perivascular dermatitis with a dense inflammatory infiltrate composed of lymphocytes, histiocytes and many eosinophils (Fig. 2). A number of eosinophils could also be observed between the collagen bundles. Tiny, spongiotic vesicles were focally present in the epidermis. Histopathologic findings led to a hypothesis of allergic dermatitis and further laboratory investigations were started.

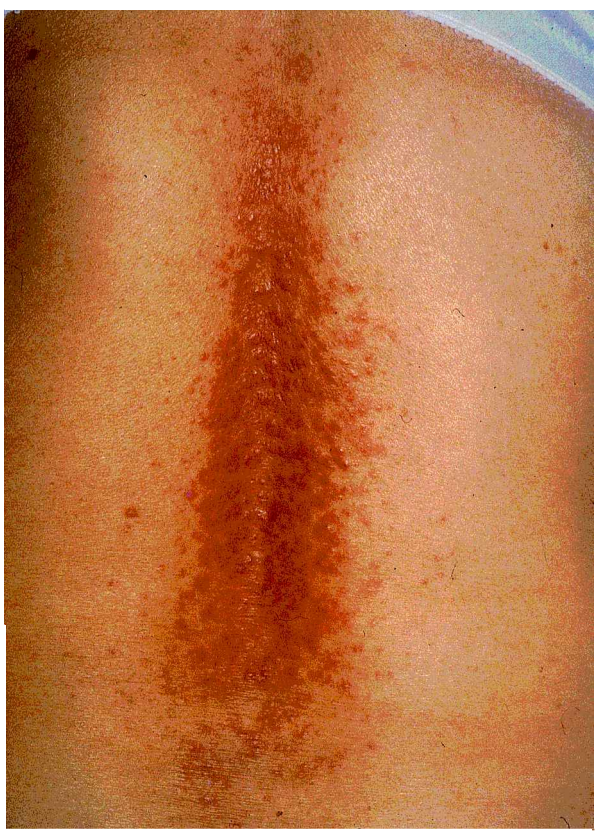

Fig. 1. Violaceous papules with a polygonal outline and flat top that have become confluent in the midline.

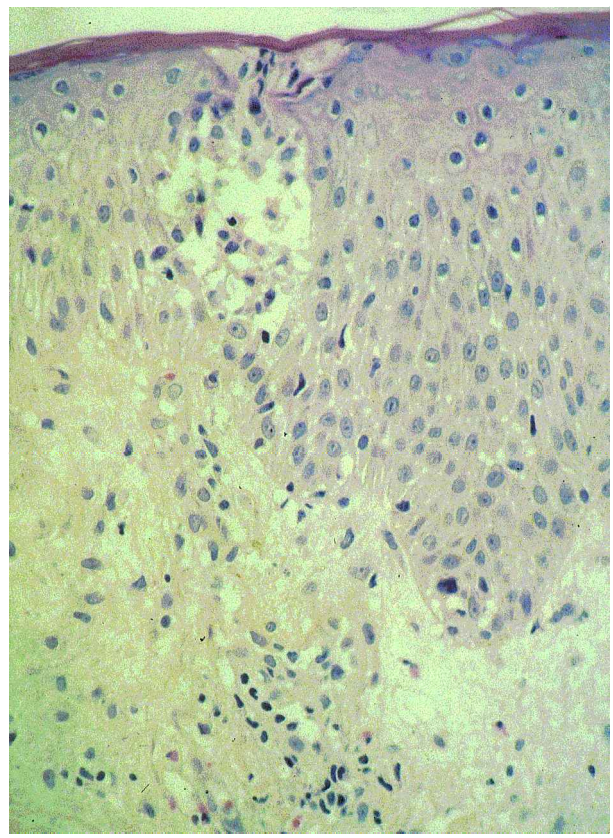

Fig. 2. The histopathologic findings, namely, a superficial and deep perivascular dermatitis with many eosinophils and focal spongiosis, excluded a lichenoid dermatitis.

Patch tests with standard contact allergens were negative. Total IgE antibodies as well as specific IgE antibodies against the most common antigens were all within the normal range. Complete blood count revealed a white blood cell count of 6×10^9/l (normal range: $4.1–10.9 \times 10^9$/l) with 13.9% eosinophils. A parasitological stool examination revealed typical

ovoid-shaped *Giardia* cysts. A one-day oral treatment with ornidazole (Tiberal®, Roche) at dosage of 1,500 mg, then repeated after 2 weeks, was given. The cutaneous lesions gradually improved after the first dose of the drug. After one month, however, new papules on elbows appeared and a coproparasitological control revealed the persistence of the parasitic infection. A new cycle of ornidazole (1,500 mg/day for 3 days) was prescribed. One month later both cutaneous lesions and *Giardia* cysts in stools were still present. An alternative treatment with oral paromomycin (Humatin®, Parke-Davis), 500 mg q.i.d for 5 days was prescribed. The parasitological follow-up at 1, 3 and 6 months was negative and cutaneous signs and symptoms completely resolved.

DISCUSSION

The strict relationship between cutaneous lesions and giardiasis was confirmed by the response to specific therapy (12–14). Probably, as in helminth infestations, a T-cell-mediated delayed hypersensitivity reaction may recall eosinophils (15, 16), but induction of cutaneous lesions remains unclear.

Recently, Well's syndrome associated with recurrent giardiasis has been reported, underlying, again, the presence of eosinophils (17). The histopathologic findings of our patient were characterized mainly by lymphocytes, with many eosinophils, which, however, were not the predominant component of the infiltrate, with no evidence of the so-called flame figures. On the basis of these findings, a diagnosis of eosinophilic cellulitis could be excluded. Clinically, the papules and some excoriated lesions could also suggest lichenified atopic dermatitis; however their localization (dorsum) and their distribution (crops of brownish papules) were not characteristic of atopic dermatitis and the histopathologic findings were not consistent with lichen simplex chronicus. This lichen-planus-like clinical presentation without histopathology of lichenoid dermatitis, should be considered in the spectrum of clinical and histopathologic cutaneous findings during *Giardia intestinalis* infection, more frequently characterized by urticaria or atopic dermatitis lesions.

REFERENCES

1. Smith LA. Still around and still dangerous: *Giardia lamblia* and *Entamoeba histolytica*. Clin Lab Sci 1997; 10: 279–286.
2. Ridley MJ, Ridley DS. Serum antibodies and jejunal histology in giardiasis associated with malabsorption. J Clin Pathol 1976; 29: 30–34.
3. Lujàn HD, Mowatt MR, Byrd LG, Nash TE. Cholesterol starvation induces differentiation of the intestinal parasite *Giardia lamblia*. Proc Natl Acad Sci USA 1996; 93: 7628–7633.
4. Geller M, Geller M, Flaherty DK, Black P, Madruga M. Serum levels in giardiasis. Clin Allergy 1978; 8: 69–71.
5. Nash TE, Herrington DA, Losonsky GA, Levine MM. Experimental infections with *Giardia lamblia*. J Infect Dis 1987; 156: 974–984.
6. Di Prisco MC, Hagel I, Lynch NR, Jimenez JC, Rojas R, Gil M, et al. Association between giardiasis and allergy. Ann Allergy Asthma Immunol 1998; 81: 261–265.
7. Kennou MF. Skin manifestations of giardiasis. Some clinical cases. Arch Inst Pasteur Tunis 1980; 57: 257–260.
8. Sánchez-Carpintero I, Vázquez-Doval FJ. Cutaneous lesions in giardiasis. Report of two cases. Br J Dermatol 1998; 139: 152–169.
9. Farthing MJG, Chong SKF, Walker-Smith JA. Acute allergic phenomena in giardiasis. Lancet 1983; 17: 1428.
10. Veronesi S, Palmerio B, Negosanti M, Tosti A. Urticaria and giardiasis. Dermatologica 1983; 166: 42–43.
11. Spaulding HS Jr. Pruritus without urticaria in acute giardiasis. Ann Allergy 1990; 65: 161.
12. Werkman HP, Meuwissen JH. Single-dose treatment of giardiasis with ornidazole in children. Lancet 1979; 2: 1373.
13. Bulut BU, Gulnar SB, Aysev D. Alternative treatment protocols in giardiasis: a pilot study. Scand J Infect Dis 1996; 28: 493–495.
14. Nash T. Efficacies of zinc-finger-active drugs against *Giardia lamblia*. Antimicrob Agents Chemother 1998; 42: 1488–1492.
15. Smith PD, Gillin FD, SpiraWM, Nash TE. Chronic giardiasis: studies on drug sensitivity, toxin production, and host immune response. Gastroenterol 1982; 83: 797–803.
16. Singer SM, Nash TE. T-cell dependent control of acute *Giardia lamblia* infections in mice. Infect Immun 2000; 68: 170–175.
17. Canonne D, Dubost-Brama A, Segardr M, Piette F, Delaporte E. Wells' syndrome associated with recurrent giardiasis. Br J Dermatol 2000; 143: 425.

A Patient with a Mucocutaneous Eruption and Intestinal Giardiasis

K. Lammintausta[1], P. Kotilainen[2], U. Hohenthal [2] and L. Talve[3]
Departments of [1]Dermatology, [2]Medicine and [3]Pathology, Turku University Central Hospital, FIN-20520 Turku, Finland.
E-mail: kaija.lammintausta@tyks.fi
Accepted May 16, 2001.

Sir,
Acute neutrophilic dermatoses are a diagnostic challenge to clinicians and can sometimes mimic erythema nodosum (EN). Overlapping of the clinical dermatoses and their histopathology exists and the relationship between skin manifestations and potential etiologic factors may be indefinite. We describe here a case where the diagnosis of EN was established by biopsy and where intestinal giardiasis was recognized as a potential etiopathogenetic agent.

CASE REPORT

A 44-year-old woman presented with intermittent fever, up to 40°C, lasting 5 days and followed by painful skin nodules and pustules in association with stomatitis, painful vaginal erosions and arthralgia. The patient had been using contraceptive pills for about 3 years but was taking no other permanent medication. Neither had she any remarkable health problems, apart from a history of recurrent aphthous stomatitis, which recidivated one week before the present illness.

On examination, the patient appeared tired and sick. She complained about arthralgia in her knees. The lower legs were painful and swollen, with several inflamed, bright red, slightly raised nodules. The nodules (2 to 5 cm in diameter) also occurred on the arms, in the upper part of the body and in the genital mucosa. A central pustule was seen in some nodules and pustular lesions occurred diffusely in the skin. In the