Successful Treatment of Jessner's Lymphocytic Infiltration of the Skin with Methotrexate

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Accepted May 25, 2009.

Sir,

Jessner's lymphocytic infiltration of the skin (JLIS) is a skin condition of unknown aetiology characterized by erythematous papules and plaques located on the head, neck and upper back. The eruption resolves spontaneously after months or a few years but can recur for several years. A variety of empirical treatments has been tried with limited success. We report here the first published case of JLIS successfully treated with methotrexate (MTX).

CASE REPORT

A 41-year-old woman presented with a 3-year history of erythematous papules and plaques on both cheeks. The lesions were asymptomatic, without burning or pruritus, but cosmetically disfiguring. The patient denied onset or exacerbation of the eruption following sun exposure. Previous treatment included cryotherapy, pulsed-dye laser and potent topical steroids with little or no response.

Skin examination revealed multiple erythematous infiltrated papules and plaques with no epidermal changes on both cheeks (Fig. 1A). She had a few hypopigmented scars after earlier laser- or cryotherapy.

Full blood cell count, renal, liver and thyroid function, borrelia serology, screening for antinuclear antibody, anti-dsDNA antibody and antibodies to Ro and La were negative or normal, except for a recurrent leukocytosis (mostly neutrophilic) up to 19×10^9/l, often coincident with a flare in skin lesions.

Repeated skin biopsies demonstrated a normal epidermis with a dense perivascular and periadnexal infiltrate of lymphocytes in the reticular dermis, and mucin between collagen bundles (Fig. 2). Direct immunofluorescense was not performed. In one biopsy the lymphocytic infiltration was more prominent than expected in JLIS. Immunohistochemistry showed a predominance of T cells, mostly CD4+ and a few CD20+ and CD79+ B cells, but without germinal centres. A diagnosis of lymphoma or pseudolymphoma was suggested among the differential diagnoses. A computerized tomography scan of the thorax and abdomen revealed no suspicious lymph nodes. A bone marrow examination showed reactive changes with a slight leukocytosis.

The patient had a history of chronic obstructive pulmonary disease (COPD) treated with seretide (GlaxoSmith-Kline Pharma A/S, Brøndby, Denmark) (salmeterol, fluticasone) and short courses of prednisolone (Nycomed, Roskilde, Denmark) to a maximum of 30 mg daily.

We started treatment with hydroxychloroquine 250 mg daily, and later treated her successively with tetracycline 500 mg twice daily, dapsone (Scanpharm A/S, Birkerød, Denmark) 50 mg twice daily in combination with topical tacrolimus 0.1% ointment twice daily and sun protection creams. All the treatments proved ineffective. We noticed, however, that after a treatment course with prednisolone due to COPD, the skin changes regressed considerably, and some of the lesions disappeared for a period of time. Consequently, when her facial eruption recurred she was treated with prednisolone up to 30 mg daily, but the treatment had to be stopped due to severe

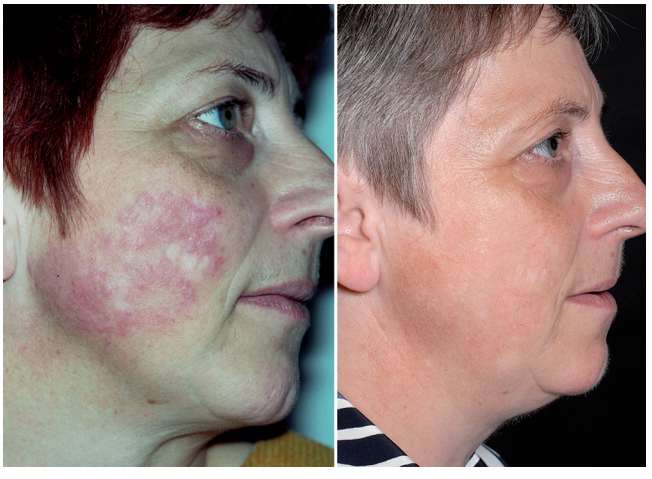

Fig. 1. Patient with Jessner's lymphocytic infiltration of the skin (A) before treatment and (B) after treatment with methotrexate.

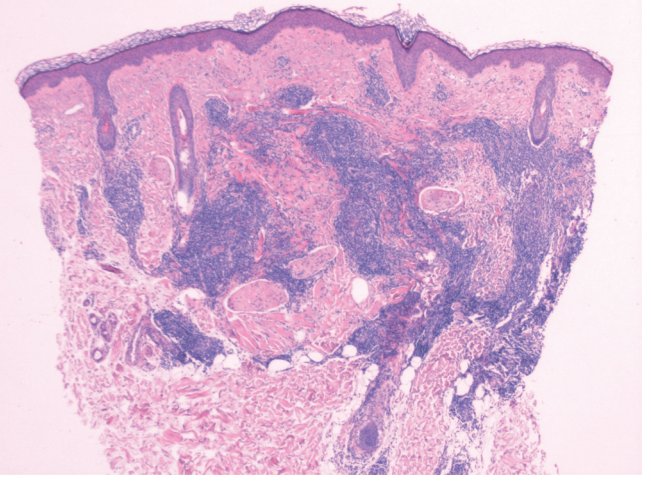

Fig. 2. Punch biopsy from the face. The epidermis is normal without inflammation at the dermo-epidermal interface. There are dense perivascular and periadnexal lymphocytic infiltrates and only sparse mucin between collagen bundles.

Cushingoid features and osteopaenia. The patient was severely cosmetically disturbed and oral MTX 15 mg weekly was prescribed. The outpatient control performed 2 months later showed that her facial skin changes had cleared completely (Fig. 1B) and the MTX treatment was stopped ater 4 months. No relapse occurred during 2 years of observation.

DISCUSSION

JLIS, described by Jessner & Kanof in 1953 (1), is known as a benign chronic T-cell infiltrative disorder with lesions persisting for several months or years. Spontaneous remission may be seen, but JLIS has a tendency to relapse. For a period of 10 years, before the treatment with MTX, our patient experienced intermittent remissions and relapses, and on several occasions almost complete resolution following treatment of her COPD with prednisolone, but with a fast post-treatment recurrence.

The incidence of JLIS is unknown, but it is considered uncommon. It mostly affects middle-aged adults, with equal incidence in men and women, and very rarely occurs in children (2, 3). Familial occurrence has been described in the literature (4, 5). JLIS is characterized by single or multiple erythematous papules or plaques and, less commonly, nodules, typically localized on the face, neck, chest, arms and upper back (3). Sometimes an arciform configuration with central clearing is seen. Usually the lesions are asymptomatic, but they can be itching or burning. The relationship to sun exposure is variable and there is no regional variation in incidence (3). Whether JLIS is a separate entity, or belongs to the disease spectrum of cutaneous lupus erythematosus or polymorphous light eruption is still a matter of debate, since clinical and histopathological features may overlap in particular with lupus erythematosus tumidus. Recent comprehensive studies conclude that these two conditions share more similarities than differences (2, 6). A few cases related to *Borrelia burgdorferi* infection or drugs have been reported (7, 8). Also, a few cases have been ascribed to contact allergy (9).

Histopathologically JLIS is characterized by a superficial and deep, primarily perivascular, sleeve-like lymphocytic dermal infiltrate with a predominance of small mature polyclonal lymphocytes and without epidermal involvement (2, 10). Deposits of mucin in the reticular dermis have been described (6). However, other authors have been unable to demonstrate mucin in JLIS (2, 11).

A variety of treatments has been tried, with variable, and often limited, success, including topical, intralesional or systemic corticosteroids, antimalarials, thalidomide, tetracyclines, cryotherapy and photoprotection. A few cases of successful treatment with dapsone, auranofin, and chemotherapy have been reported (12–14). Treatment with antimalarials is usually effective in cases with photo-sensitivity. In our case there was no response to antimalarials, perhaps because the patient was a smoker (15). After treatment with MTX, the skin changes disappeared completely and did not recur during the 2 years of observation. In our opinion, treatment with MTX may be a possibility in cases of refractory disease that do not respond to more established therapies.

REFERENCES

1. Jessner M, Kanof B. Lymphocytic infiltration of the skin. Arch Dermatol 1953; 68: 447–449.
2. Lipsker D, Mitschler A, Grosshans E, Cribier B. Could Jessner's lymphocytic infiltrate of the skin be a dermal variant of lupus erythematosus? An analysis of 210 cases. Dermatology 2006; 213: 15–22.
3. Toonstra J, Wildschut A, Boer J, Smeenk G, Willemze R, van der Putte SC, et al. Jessner's lymphocytic infiltration of the skin. A clinical study of 100 patients. Arch Dermatol 1989; 125: 1525–1530.
4. Dippel E, Poenitz N, Klemke CD, Orfanos CE, Goerdt S. Familial lymphocytic infiltration of the skin: histochemical and molecular analysis in three brothers. Dermatology 2002; 204: 12–16.
5. Ashworth J, Morley WN. Jessner and Kanof's lymphocytic infiltration of the skin: a familial variant. Dermatologica 1988; 177: 120–122.
6. Rémy-Leroux V, Léonard F, Lambert D, Wechsler J, Cribier B, Thomas P, et al. Comparison of histopathologic-clinical characteristics of Jessner's lymphocytic infiltration of the skin and lupus erythematosus tumidus: multicenter study of 46 cases. J Am Acad Dermatol 2008; 58: 217–223.
7. Abele DC, Anders KH, Chandler FW. Benign lymphocytic infiltration (Jessner-Kanof): another manifestation of borreliosis? J Am Acad Dermatol 1989; 21: 795–797.
8. Schepis C, Lentini M, Siragusa M, Batolo D. ACE-inhibitor-induced drug eruption resembling lymphocytic infiltration (of Jessner-Kanof) and lupus erythematosus tumidus. Dermatology 2004; 208: 354–355.
9. Caroli UM, Berner D, Schlegel C, Metzler G, Röcken M, Biedermann T. Lymphocytic infiltration of the skin Jessner-Kanof after treatment with a hydroquinone-containing bleaching cream. Arch Dermatol 2006; 142: 1655–1656.
10. Poenitz N, Dippel E, Klemke CD, Qadoumi M, Goerdt S. Jessner's lymphocytic infiltration of the skin: a CD8+ polyclonal reactive skin condition. Dermatology 2003; 207: 276–284.
11. Teixeira M, Ferreira M, Alves R, Selores M. Lupus erythematosus tumidus: an underestimated entity. Lupus 2006; 15: 296–300.
12. Ardavanis A, Orphanos G, Skafida S, Basioukas S, Rigatos G. Coincidential successful treatment of Jessner-Kanof disease with chemotherapy. Ann Oncol 2008; 19: 1360–1361.
13. Rai VM, Balachandran C. Multiple infiltrated nodules and plaques. Lymphocytic infiltrate of Jessner. Dermatol Online J 2006; 12: 26.
14. Hafejee A, Winhoven S, Coulson IH. Jessner's lymphocytic infiltrate responding to oral auranofin. J Dermatolog Treat 2004; 15: 331–332.
15. Hügel R, Schwarz T, Gläser R. Resistance to hydroxychloroquine due to smoking in a patient with lupus erythematosus tumidus. Br J Dermatol 2007; 157: 1081–1083.