Cyclosporin Maintenance Therapy for Severe Atopic Dermatitis

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Twelve patients with chronic severe atopic dermatitis were treated with cyclosporin A (CsA) in a dose of 5.0 mg/kg/day. All patients except one showed a good therapeutic response. After week six, the CsA dose was reduced until an increased activity of atopic dermatitis was noticed (minimal effective dose). The minimal effective dose fluctuated with the severity of the atopic dermatitis. The mean minimal effective dose was approximately 4.0 mg/kg/day. Maintenance therapy with CsA for atopic dermatitis seems to be effective but may be hampered by side effects in the same way as CsA therapy is hampered by side effects in the treatment of psoriasis.

(Accepted January 21, 1991.)

Acta Derm Venereol (Stockh) 1991; 71: 356–357.

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The therapeutic value of oral cyclosporin A (CsA) in atopic dermatitis (AD) has been reported (1, 2). However, AD flares after discontinuation of CsA (2). Therefore, in cases of chronic severe AD, maintenance therapy with CsA seems to be necessary. We carried out an open trial to determine the minimal effective dose (MED) and effectiveness of CsA in long-term treatment of AD.

PATIENTS AND METHODS

Six men and 6 women with ages ranging between 20 and 68 years were selected. They all fulfilled the diagnostic criteria for AD (3). At least 30% of the total skin surface was involved, the eczema was recalcitrant to conventional therapies and was chronic for at least a year. Topical and systemic therapies or ultraviolet therapy had been discontinued 2 weeks prior to treatment with CsA. During CsA

therapy, no topical or oral concomitant medication was allowed except for non-steroid-containing emollients.

Before starting treatment (baseline) and during CsA therapy, blood pressure, haematological and biochemical profiles were measured. The rule of nines was used for scoring the eczema extension. The severity of the eczema for erythema, papulae, vesiculae, xerosis, induration, excoriations, and pruritus was assessed on the face and neck, cubital fossae, hands, and back of the knees. The severity of each of these features was scored on a four-point-scale (0 = none, 1 = mild, 2 = moderate, 3 = severe). The eczema severity index was obtained by adding the numbers of each of the features. These assessments were done at baseline, week 1,2,3,4 and biweekly thereafter.

In our opinion the eczema extension score has a low correlation with the severity of the eczema. Due for example to a widespread erythema, the eczema extension score may remain high even though the patient and investigator believe that the eczema has improved dramatically. We only used the eczema severity index to obtain the percentage of improvement in the eczema.

All patients received oral CsA (Sandimmune) at a dose of approximately 5.0 mg/kg/day in galenical capsules containing 25 mg or 100 mg CsA. In the case of side effects, e.g. diastolic blood pressure above 95 mmHg or rise in serum creatinine, CsA was withdrawn.

After week 6, the CsA dose was reduced weekly by 25 mg until progression of AD was observed (MED). The patients were treated with the MED as long as possible. For the patients who could be treated with a CsA dose below 5 mg/kg/day after week 6 and who were on MED for at least 8 weeks, the mean MED during the last 8 weeks of CsA therapy was calculated. This mean MED of each patient was used to calculate the mean MED of the whole group of patients.

RESULTS

In all patients except one, a substantial improvement of the AD was observed within 4 weeks. In the one exception the disease worsened despite CsA therapy and the latter had to be withdrawn at week 3.

At week 6, AD was improved by 75% or more in 6 patients and improved 50–75% in 5 patients according to the degree of involvement at baseline. However, xerosis remained a problem in all patients. At week 6, CsA was withdrawn in one patient because of hypertension RR 185/110 mmHg. Another patient stopped CsA because he wanted to use CsA only during exacerbations of his AD and not as a maintenance therapy.

The severity of the atopic dermatitis fluctuated despite CsA therapy. Therefore it was difficult to establish the MED in the remaining 9 patients. In 2 patients with improvement of AD of 55% and 60% at week 6 respectively, the disease worsened with a lower dose of CsA than 5.0 mg/kg/day. In the other 7 patients the mean MED obtained was 4.06 mg/kg/day (SD .732). However, MED fluctuated with the severity of the AD. The average fluctuation for each patient was 0.3 mg/kg/day above or below the assessed MED. In none of the patients did the fluctuation exceed 0.5 mg/kg/day above or below the assessed MED.

CsA remained effective during maintenance therapy for 19–32 weeks (mean 24 weeks).

DISCUSSION

Eleven out of 12 patients observed improvement in AD during CsA therapy. The MED of CsA was approximately 4.0 mg/kg/day. This is higher than the MED for psoriasis (4). The MED in patients with less severe AD may be lower. Long-term CsA therapy for AD is effective but it is likely that maintenance therapy with CsA for AD will be hampered by side effects in the same way as CsA therapy for psoriasis is hampered by side effects (5). In our opinion, in CsA therapy for AD the same safety guidelines should be followed as for CsA therapy of psoriasis (6).

Since CsA is effective in atopic dermatitis it may also be used as a short-term therapy during severe exacerbations of atopic dermatitis.

REFERENCES

1. Wahlgren CF, Scheynius A, Hägermark O. Antipruritic effect of oral cyclosporin A in atopic dermatitis. Acta Derm Venereol (Stockh) 1990; 70: 323–329.
2. Taylor RS, Cooper KD, Headington JT, Ho VC, Ellis CN, et al. Cyclosporine therapy for severe atopic dermatitis. J Am Acad Dermatol 1989; 21: 580–583.
3. Hanifin JM, Rajka G. Diagnostic features of atopic dermatitis. Acta Derm Venereol (Stockh) 1980; Suppl 92: 44–47.
4. Griffiths CEM, Powles AV, McFadden J, Baker BS, et al. Long-term cyclosporin for psoriasis. Br J Dermatol 1989; 120: 253–260.
5. de Rie MA, Meinardi MMHM, Bos JD. Analysis of side effects of medium- and low-dose cyclosporin maintenance therapy in psoriasis. Br J Dermatol 1990; 123: 347–353.
6. Anonymus. A consensus report: cyclosporin A therapy for psoriasis. Br J Dermatol 1990; 122 (Suppl 36): 1–3.