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CLINICAL INVESTIGATION

The Efficacy of Intermittant Low-Dose Systemic Corticosteroid in the Treatment of Alopecia Areata

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Abstract: Alopecia areata (AA) is a common cause of non-scarring alopecia characterized by patchy hair loss. AA is difficult to treat because of its chronic and inflammatory nature. The aim of the present study was to investigate the effect of low-dose systemic corticosteroids in the treatment of AA.

Fifteen patients with AA were included in this study. Systemic prednisolone 10-15 mg/day on 2 consecutive days per week for 6 months was administered. Fourteen patients (93.3%) had patchy alopecia areata. One patient (6.3%) had alopecia universalis. Seven (46.7%) patients showed complete healing, 5 (33.3%) showed partial response and 3 (20%) did not respond to treatment.

Low-dose intermittant corticosteroid therapy may be a successful and well tolerated treatment option in AA and also in patients with alopecia totalis and universalis.

Key Words: Alopecia areata, systemic corticosteroid, therapy

Introduction

Alopecia areata (AA) is the most common cause of localized, nonscarring alopecia affecting both children and adults (1). The incidence is estimated to be 0.05- 0.1% and it affects men and women equally (2,3). Although the pathogenesis is not exactly clear, there is increasing evidence that autoimmunity is the underlying mechanism (2). In addition, genetic factors and stress have an important role in the pathogenesis (3). Topical, intralesional or systemic corticosteroids, PUVA therapy, cryotherapy, anthralin, minoxidil, topical immunotherapy and cyclosporine are the treatment approaches that induce remissions. The therapeutic effects of most of the treatments are due to an immunomodulatory mechanism (2). Among these treatment alternatives systemic corticosteroids have been shown to be effective, but there are many side effects. To avoid these side effects, in this study we decided to use low-dose systemic corticosteroid therapy.

Materials and Methods

Fifteen patients attending the Kirikkale University School of Medicine Department of Dermatology were included in this prospective study. Before inclusion in the study a complete physical examination, laboratory investigation including complete blood count, serum electrolytes, chest X-ray, renal and hepatic function tests and screening for autoantibodies were performed. Patients with contraindications to corticosteroid therapy such as diabetes mellitus, peptic ulcer and acute or chronic infection were not included in the study. The treatment schedule consisted of prednisolone 15 mg/day for 2 consecutive days for patients over 15 years of age and 10 mg for patients under 15 years of age. The dosage was kept the same for 6 months. During the study all other treatment modalities were withheld. Patients were seen monthly for the efficacy and side effects of the drug. Complete healing was defined as regrowth of hair in all the patches. Partial response was defined as beginning of regrowth of hair with/without

light pull positivity and no response as no regrowth of hair and also progression of hair loss.

Statistical Analysis

The results of the study were statistically analyzed by using the SPSS 10.0 program (Windows, Microsoft, USA).

Results

Fifteen patients (7 men and 8 women) were evaluated. Only 1 patient (6.3%) had a history of autoimmune disease in his family. Their ages ranged between 4 and 58 years (median 20). The duration of the disease varied from 1 month to 84 months (median 5). Fourteen patients (93.3%) had patchy AA. The extent of involvement ranged from 0 to 40% in 12 patients and >40% in 2 patients. One patient (6.3%) had alopecia universalis (AU). Eight (53.3%) patients had the active disease whereas 7 (46.7%) of them were stable. The duration of the therapy was 6 months.

Seven (46.7%) patients showed complete healing (Figures 1 and 2), while 5 (33.3%) of the 15 patients

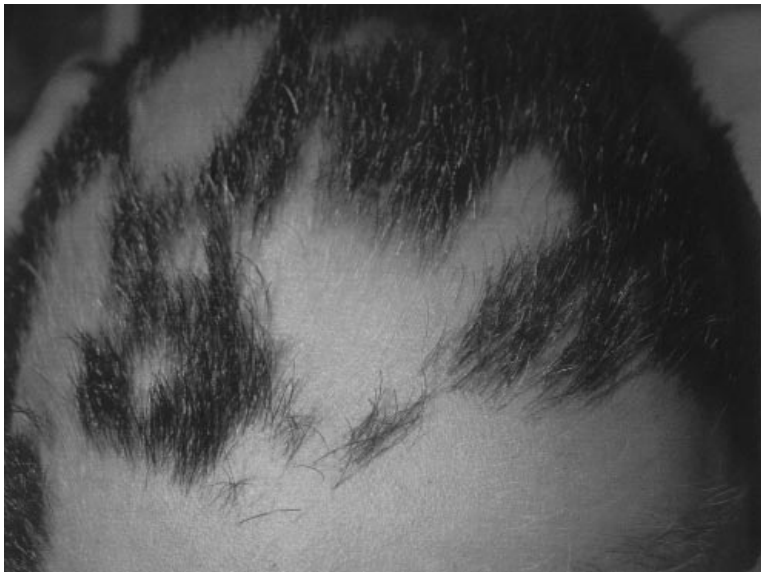

Figure 1. Patient (15) before receiving treatment.

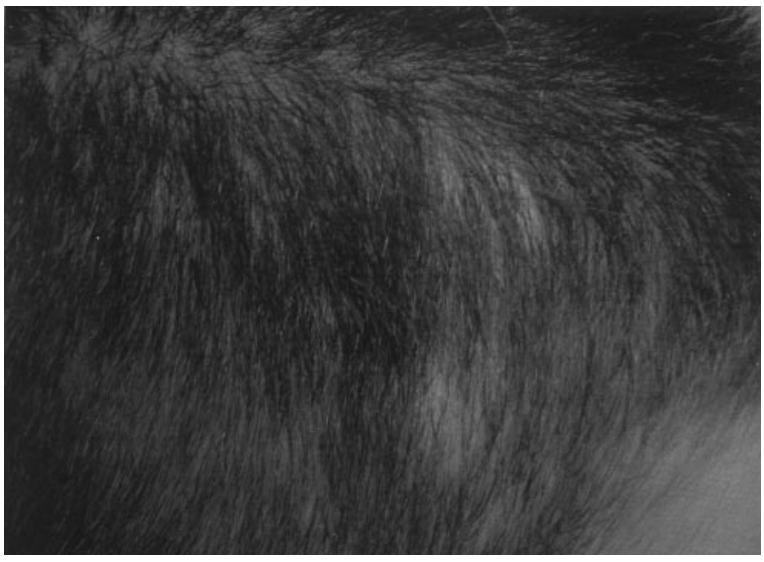

Figure 2. Patient after receiving treatment.

showed regrowth of hair in AA lesions and light pull was also positive (partial remission). Three (20%) of the patients did not respond to treatment (Table). Overall healing (complete healing and partial response) was 80%. There was 1 patient with universal type AA who showed complete healing after the therapy and did not show relapse 4 months after cessation of the therapy. After using a non-parametric Mann-Whitney U test, the healing did not reveal statistically significant differences according to disease activity (P = 0.446) and chronicity of the disease (P = 0.233).

Discussion

It is well known that the clinical course of AA is extremely variable, showing frequent relapses (4). The response of alopecia totalis (AT) and AU to treatment is especially disappointing. Muller and Winkelmann reported that there is a great tendency for regrowth of hair in patients with patchy AA except in cases of AU and AT (5). Therefore, the side effects and benefits of the treatment must be well thought through. PUVA therapy, anthralin, minoxidil, topical immunotherapy, cyclosporine and corticosteroids are typical treatment approaches (6). By exerting an immunosuppressive effect, corticosteroids can promote the regrowth of hair in AA (6). Corticosteroids can be used by topical, intramuscular, intralesional or oral routes (7). Intralesional corticosteroid therapy is an effective alternative, especially in patients with a few patches (4), whereas systemic steroids are appropriate for rapidly progressive or extensive forms of AA (7).

Alabdulkareem et al. reported the efficiency of oral steroid therapy in patients with severe AA (8). They treated 18 patients with AT and AU at a dose ranging from 15 to 40 mg/day. They reported satisfactory hair growth in 38.9% of the patients, but in all of these patients hair fall occurred after the discontinuation of therapy.

Seiter et al. used high-dose pulse corticosteroid therapy in AA (2). They treated 30 patients with intravenous methylprednisolone on 3 consecutive days at 4-week intervals for at least 3 courses and reported that they observed no effect in patients with ophiasic AA, AT, AU, whereas 67% of their patients with AA plurifocalis

Table. Results of systemic corticosteroid therapy in 15 patients with AA.

No.	Type	Age/sex	No. of patches	Ophiasis	Disease activity	Duration of disease (months)	Results	Current status
1	AA	13/F	2	no	P	1	NR	
2	AA	22/F	1	no	P	96	PR	
3	AA	35/F	2	no	P	1	NR	
4	AA	32/F	3	no	P	6	PR	
5	AA	11/M	10	no	P	1.5	CR	No activation after 4 months
6	AA	24/F	1	no	S	12	CR	Activation at 4 months
7	AA	23/M	1	no	P	2	CR	Activation at 3 months
8	AA	58/M	15	yes	S	60	NR	
9	AA	20/F	4	no	S	96	PR	
10	AA	4/M	4	no	S	1	PR	
11	AA	12/M	10	yes	S	7	CR	No activation after 14 months
12	AA	22/M	10	no	S	5	CR	No activation after 12 months
13	AA	17/F	2	no	P	9	PR	
14	AU	10/F	(-)	(-)	S	72	CR	No activation after 16 months
15	AA	5.5/M	8	(-)	P	5	CR	Activation after 5 months

AA: Alopecia areata, AU: Alopecia universalis, P: Progressive, S: Stable
NR: No response, PR: Partial response, CR: Complete response

showed 50% hair regrowth (2). In patients with plurifocal AA they observed more than 50% hair regrowth. They also observed that patients suffering from a long-term form of the disease responded better than patients treated during their first episode (2).

In our study 7 (46.7%) patients showed complete healing, and 5 (33.3%) showed regrowth of hair in AA lesions and light pull positivity. Three (20%) of the patients did not respond to treatment. Overall healing (complete healing and partial response) was 80% (Table) We did not observe any difference in the response rate according to disease chronicity. Patients having the first episode and patients suffering from AA for many years responded to low-dose systemic steroid therapy. We observed complete healing in a patient with AU. She had suffered from AU for 6 years and had used many different treatment alternatives without success. In contrast to Alabdulkareem et al., 4 of the patients who showed complete healing did not experience hair fall after many months, and they remain in remission (Table).

The low dose corticosteroid therapy was well tolerated in our study, and major side effects did not occur. It would be better to compare the efficacy with a placebo, but it is hard to accomplish this.

In conclusion, low-dose intermittant corticosteroid therapy may be a successful and well-tolerated treatment option in patients with AA, AT and AU.

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