Communication

Treatment of developing vitiligo with oral mini-pulse of dexamethasone

Tratamento do vitiligo em progressão com minipulso oral de dexametasona

Authors:
Helena Zenedin Marchioro[1]
Mariana Martins Bardou Zunino[2]
Juliana Maria Zucco Viesi[3]
Felipe Bocnhia Cerci[1]
Caio Cesar Silva Castro[4]

[1] Dermatologist Physician, Santa Casa de Misericordia de Curitiba – Curitiba (PR), Brazil
[2] Dermatologist Physician in private practice – Porto Alegre (RS), Brazil
[3] Dermatologist Physician in private practice – Curitiba
[4] PhD in Health Sciences; Dermatologist Physician; Head of Vitiligo Outpatient Clinic, Dermatology Department, Santa Casa de Misericordia de Curitiba

ABSTRACT

Introduction: The authors have carried out a retrospective analysis of data from 26 patients with developing vitiligo who were treated with oral mini-pulse of dexamethasone. Clinical response and side effects were evaluated at monthly intervals. Of the 26 patients included in the study, 12 (46.2%) presented a repigmentation of lesions, 11 (42.3%) stabilized, and 3 (11.5%) experienced a worsening of the condition. Ten patients (38.5%) had side effects, the most common of which was weight gain. There was a correlation between the duration of the treatment and the frequency of side effects.

Keywords: vitiligo; pulse therapy, drug; dexamethasone.

RESUMO

Introdução: *Foram analisados retrospectivamente dados de 26 pacientes com vitiligo em progressão, submetidos a protocolo de tratamento com minipulso oral de dexametasona. A resposta clínica e os efeitos colaterais foram avaliados em intervalos mensais. Dos 26 pacientes incluídos no protocolo de estudo, 12 (46,2%) apresentaram repigmentação das lesões, 11 (42,3%) estabilização, e três (11,5%) progressão da doença. Dez pacientes (38,5%) apresentaram efeitos colaterais, sendo o aumento de peso a reação adversa mais comum. Houve associação entre tempo de tratamento e frequência dos efeitos colaterais.*

Palavras-chave: *vitiligo; pulsoterapia; dexametasona*

Correspondence:
Dr. Helena Zenedin Marchioro
R. Brigadeiro Franco, 441 – Mercês
Cep: 80430-210 - Curitiba – PR, Brazil

Received on: 5 May 2012
Approved on: 9 June 2012

This study was carried out at the Ambulatório Especializado de Vitiligo do Serviço de Dermatologia da Santa Casa de Misericórdia de Curitiba – Curitiba (PR), Brazil.

Financial support: None
Conflict of interest: None

INTRODUCTION

Vitiligo is a common skin condition that affects 2% of the world'spopulation.[1] Although it is benign, it can cause great negative impact on patients' quality of life, mainly due to the esthetical damage caused by the lesions on the skin.[2] There are few therapies available for its treatment, and such methods are not very effective in the controlling the condition'sprogression.[3] The use of systemic corticosteroids is founded in vitiligo's physiopathogenic autoimmunity theory;[4] their efficacy has been demonstrated in several studies.[5-9] The greatest challenge in systemic corticosteroid therapy is to establish the ideal dosage and treatment duration that produces an effective clinical improvement without causing significant side effects. Aimed at that

objective, a few treatment protocols based on corticosteroid mini-pulses have reportedly presented variable results.[6-8]

The pulse-based therapy consists of the intermittent administration of high doses of medication, aiming at increasing the efficacy and reducing side effects of a particular drug.[10] An oral mini-pulse is characterized by the use of much smaller doses of corticosteroids than the usual pulse therapy doses, which are used in a cyclical manner.[8]

In order to evaluate an oral mini-pulse of dexamethasone in the treatment of developing vitiligo, a retrospective study analyzed the response to a treatment protocol applied to 26 patients in the Ambulatório Especializado de Vitiligo (Vitiligo Outpatient Clinic) of the Santa Casa de Misericórdia de Curitiba, in the Brazilian State of Paraná.

Patients diagnosed with vulgaris or acrofacial vitiligo that had progressed during the previous month received treatment with an oral mini-pulse of dexamethasone. Patients with contraindication to the use of systemic corticosteroids, children and the elderly were not eligible. The oral mini-pulse consisted of dexamethasone at 8mg/week, divided into two 4mg doses, taken on two consecutive days, for up to three months. Reassessments were performed at monthly intervals, with the classification of the response to the therapy as minimal repigmentation (<25%), moderate repigmentation (25-75%), intense repigmentation (> 75%), stabilization of the lesions or progression of the disease.

Patients' epidemiological data, as well as information regarding the initial evaluation and the determination of body surface area affected by the disease (through the "rule of nines") were analyzed. The effects of the treatment were evaluated regarding: 1) the duration of the condition, 2) extent (body surface area affected), 3) association with other autoimmune conditions, and 4) treatment duration and side effects.

SPPS V13.0 software was used in the statistical analysis to perform univariate and bivariate analysis, in which the Chi-square and ANOVA tests were used, respectively.

Of the 26 patients studied, 21 (80.8%) were women and five (19.2%) were men, with ages ranging from 15-55 (mean = 36.2). The duration of the disease varied from 1-37 years (mean = 15.15 years). The extent of the lesions varied from2-30% of body surface area (mean = 10.35%). Seven patients (26.9%) had some associated autoimmune disease; hypothyroidism was the most prevalent (85.7%). Seventeen patients (65.4%) completed three months of treatment, four (15.4%) completed two months, and five (19.2%) received one month of treatment.

Regarding the response to the treatment, 12 of 26 patients (46.2%) presented repigmentation of vitiligo lesions, in 11 (42.3%) the condition stabilized, and in three (11.5%) the condition progressed despite the treatment. Of the 12 patients who had repigmentation, eight (66.7%) presented a minimal degree of pigmentation (<25%), three (25%) presented a moderate degree of repigmentation (25-75%), and one (8.3%)presented intense repigmentation (> 75%) (Table 1). There was no association between the type of clinical response and the disease's development duration, extent of the lesion, or presence of associated autoimmune condition.

The assessment of the clinical response regarding the treatment duration (one, two, or three months) showed no statistical difference (p = 0.33).

Side effects were observed in ten patients (38.5%). The most common adverse reaction was weight gain, which occurred in seven subjects (26.9%) and varied from 1-5kg (mean = 1.4kg) over the treatment period. Acne, hypertrichosis, menstrual irregularities, and irritability occurred in 7.7% of cases. Headache, drowsiness, insomnia, dizziness, increased blood pressure, and edema occurred in 3.8% of patients (Table 2). When analyzing the correlation between the frequency of adverse effects and the duration of treatment, there was a statistically significant difference between the groups. In the group of patients who received only one month of treatment, none presented side effects. In the group that received two months, only one individual (25%) presented an adverse effect. In the group that completed three months of treatment, nine patients (52.9%) had some type of adverse reaction (p= 0.03) (Graph 1).

Regarding those results, some considerations must be taken into account. The use of systemic corticosteroids in the treatment of vitiligo has been tested in several studies, [5-9] nonetheless the dose and treatment duration have not yet been established. Radakovic-Fijan and colleagues demonstrated that dexametha-

Table 1: Clinical response

Clinical response	N.	%
Minimal	8	30.8
Moderate	3	11.6
Intense	1	3.8
Stabilization	11	42.3
Progression	3	11.5
Total	**26**	**100**

Table 2: Type and frequency of side effects

Side effect	Frequência*	
	N.	%
Weight gain	7	26.9
Hypertrichosis	2	7.7
Acne	2	7.7
Menstrual irregularity	2	7.7
Irritability	2	7.7
Headache	1	3.8
Edema	1	3.8
High blood pressure	1	3.8
Insomnia	1	3.8
Drowsiness	1	3.8
Total	**26**	**100**

** Patients may have presented more than one side effect*

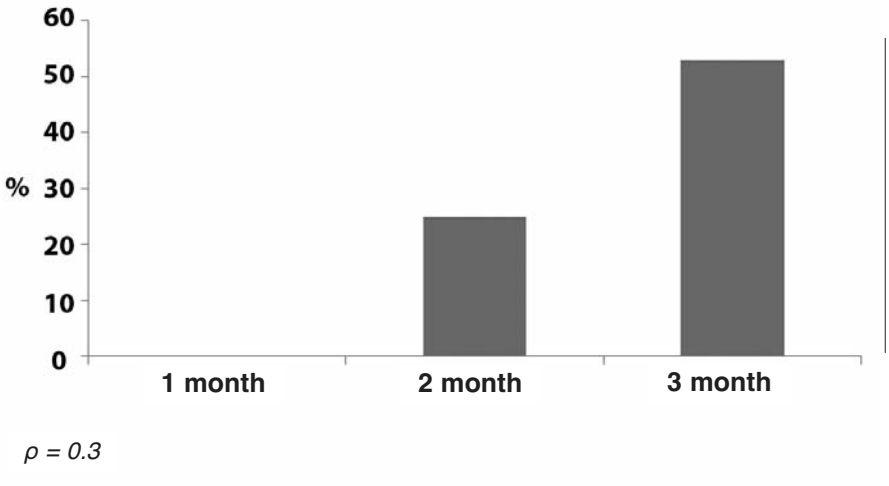

Figure 1: Correlation between treatment duration and frequency of side effects

sone used in oral mini-pulses induces peak plasma concentrations of the drug, however without prolonged suppression of the hypothalamic-pituitary-adrenal axis/ The benefits of treatment with mini-pulse would be a more convenient posology for the patient, which would help in the adherence to treatment, and in theory reduce adverse effects. However, no studies to date have compared the regimen of daily doses of systemic corticosteroids 5,9 to the mini-pulse scheme.

Previous studies with mini-pulses of dexamethasone in doses ranging from10-20mg/week administered for varied periods of time have verified that both the clinical improvement and the side effects were more significant the longer the treatment duration.[6-8] In the present study, there was no statistical difference in clinical response between groups that received one, two, or three months of treatment. Associated with longer treatment durations, the frequency of side effects was relatively high, occurring in 38.5% of patients. The most common adverse reaction was weight gain.

In this study, a favorable response (stabilization or repigmentation) was observed in 88.5% of cases; only three of the 26 patients experienced a progression of the condition. The high rate of improvement suggests that oral corticosteroid therapy is a good treatment option for vitiligo in progression, which corroborates data from the literature.[6]

Furthermore, no correlation was found between the duration of the disease and the clinical response. This result differs from a Korean study that found more favorable clinical responses in patients who had suffered from the condition for up to two years.[5]

Vitiligo is often associated with autoimmune diseases, such as thyroidopathies, which were found in 26.9% of cases in the present study. Nevertheless, there was no correlation between treatment response and the presence of autoimmune diseases.

The dexamethasone mini-pulse treatment was effective in producing stabilization and repigmentation in progressing vitiligo, and should be considered a therapeutic option for eligible patients. Regarding the limitations caused by side effects, the possibility of weight gain in particular shall be given due consideration. ●

REFERENCES

1. Halder RM, Chappell JL. Vitiligo update. Semin Cutan Med Surg. 2009;28(2):86-92.
2. Kostopoulou P, Jouary T, Quintard B, Ezzedine K, Marques S, Boutchnei S, et al. Objective vs. subjective factors in the psychological impact of vitiligo: the experience from a French referral centre. Br J Dermatol. 2009; 161(1):128-33.
3. Lotti T, Berti S, Moretti S. Vitiligo therapy. Expert Opin Pharmacother. 2009;10(17):2779-85.
4. Passeron T, Ortonne JP. Physiopathology and genetics of vitiligo. J Autoimmun. 2005; (25 Suppl):63-8 .
5. Kim SM, Lee HS, Hann SK. The efficacy of low-dose oral corticosteroids in the treatment of vitiligo patients. Int J Dermatol. 1999;38(7):546-50.
6. Radakovic-Fijan S, Furnsinn-Friedl AM, Honigsmann H, Tanew A. Oral dexamethasone pulse treatment for vitiligo. J Am Acad Dermatol. 2001;44(5):814-7.
7. Pasricha JS, Khaitan BK. Oral mini-pulse therapy with betamethasone in vitiligo patients having extensive or fast-spreading disease. Int J Dermatol. 1993;32(10):753-7.
8. Kanwar AJ, Dhar S, Dawn G. Oral minipulse therapy in vitiligo. Dermatology. 1995;190(3):251-2.
9. Banerjee K, Barbhuiya JN, Ghosh AP, Dey SK, Karmakar PR. The efficacy of low-dose oral corticosteroids in the treatment of vitiligo patient. Indian J Dermatol Venereol Leprol. 2003;69(2):135-7.
10. Vitiligo. New York: Springer; 2009.