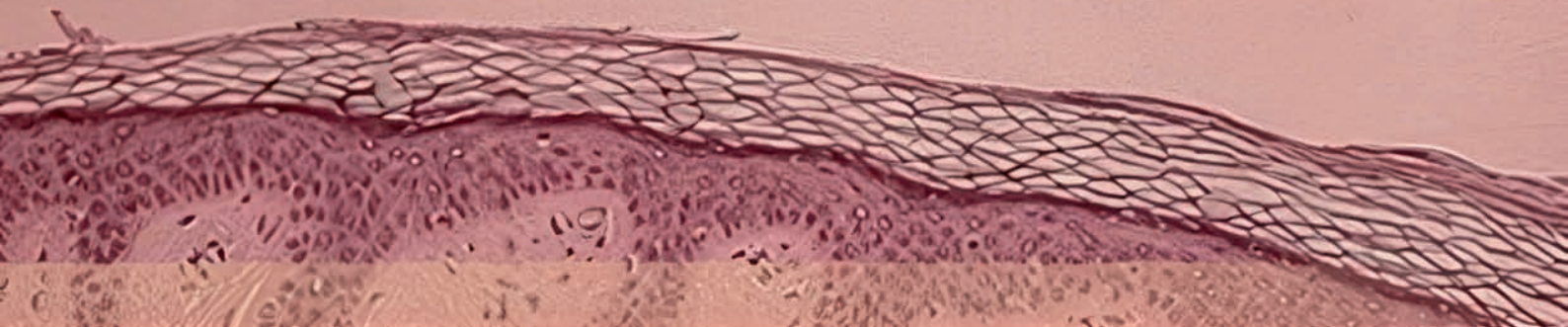




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Tratamiento de alopecia areata con producto natural en niños del Hospital Pediátrico Docente "Juan Manuel Márquez"

Treatment of alopecia areata with a natural product
in children at the Pediatric Teaching Hospital
"Juan Manuel Márquez"

Research article

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Treatment of alopecia areata with a natural product (Alopel®) in children at the Pediatric Teaching Hospital "Juan Manuel Márquez"

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Abstract

Alopecia areata, a multifactorial disease of unknown etiology, causes hair loss on the head and other areas of the body. It begins as small, round, solitary or multiple patches affecting the scalp and is most common in the first three decades of life.

Objective: To evaluate the effectiveness and safety of topical application of the natural product Alopel® in children with alopecia areata.

Methods: A longitudinal, open, prospective pilot study was conducted that included 20 female and male patients between 1 and 18 years of age with alopecia patches on the scalp, who were characterized according to clinical-epidemiological and sociodemographic variables. The treatment consisted of applying the product packaged as Foam/Spray 3 times a day for one month and was monitored monthly in the Dermatology clinic. The evaluation criteria were established by the disappearance of the alopecia plaques or decrease in diameter and the main variable was evaluated at the end of the treatment as: Excellent (E), Good (B), Fair (R) or Poor (P).

Results: We obtained a satisfactory response in 85%, good in 10% and fair in 5%. No adverse effects were presented. High degree of patient satisfaction.

Conclusions: This drug is considered an excellent therapeutic option for the treatment of alopecia areata.

Conflicts of interest

The authors declare that there are no conflicts of interest of any kind with the preparation of this document.

Keywords: alopecia areata; telogen; flavonoid; oleanolic acid; apigenin.

Introduction

The hair follicle is a mini-organ that transforms and regenerates in a complex cycle of growth, regression and degeneration that lasts the entire life of the individual, called the hair follicle cycle. This process is controlled by growth factors, inhibitors and hormonal factors that compete and regulate each other. The stages of follicular growth are called anagen, telogen and catagen. It is estimated that there are about 1,500 hair follicles on the scalp.⁽¹⁾

Alopecia areata (AA) is a chronic, inflammatory disease of the non-scarring telogen group of autoimmune, genetic and ultimately multifactorial etiology that affects the hair follicle and sometimes the nails.⁽²⁾ It is characterized by non-scarring, asymptomatic alopecia areas that can affect the scalp, eyebrows, eyelashes, beard and the hairs of the rest of the body. Some authors consider it the first cause of alopecia in children.⁽³⁾

The etiopathogenesis of AA requires: genetic factors that determine an individual's predisposition (as can be seen from the existence of certain HLA such as DQ3, DQ7, DR4 and DR11), a cellular autoimmune response (CD4 helper T cells), association with autoimmune diseases (such as Hashimoto's thyroiditis and vitiligo, systemic lupus erythematosus), Down syndrome, atopic dermatitis, external triggering factors such as various infections, sometimes dental, which can be observed in up to 4% of people who suffer from it, and stress, which is largely responsible.^(4,5)

It has a great social impact and may be a reflection of other autoimmune disorders. There is no specific treatment, however some medications are usually encouraging and give a favorable response in less time.^(6,7)

Recurrent cases, the greater extension of the lesions and the long evolution time offer more resistance to therapy, so leaving a case of AA untreated has turned out to be a legitimate option for some patients with scarce or limited areas. It is known that spontaneous remission of the affected areas can occur in even 80% of cases in less than a year, but it will not happen before three months and this also depends on the clinical type and the number of lesions.⁽⁸⁾

It can be observed at all ages of life. Young people and children are commonly affected and cases have also been reported in neonates.⁽⁹⁾ Onset before the age of 15 years, the presence of nail alterations and a family history of vitiligo have been shown to be prognostic markers for total or universal AA.⁽¹⁰⁾

All these factors are decisive in deciding the therapy,^(11,12) but the psychological factor as a trigger should not be underestimated.⁽¹³⁾

The histopathological characteristics depend on the stage of the disease.⁽¹⁴⁾

Many drugs have been used in AA: anthralin, steroids, minoxidil, cyclosporine, PUVA therapy, tacrolimus, biotin, zinc, sulfasalazine, photodynamic therapy, other topical immunomodulators.⁽¹³⁾ For all the above reasons, the following work is carried out with the objective of evaluating the effectiveness and safety of the topical application of the natural product **Alopel®** in children with alopecia areata.

Methods

A pilot, longitudinal, open, prospective study was conducted, which included 20 female and male patients between 1 and 18 years of age, with alopecia on the scalp.

The following variables were operationalized: age, sex, skin color, personal and family pathological history, number of plaques, time of evolution of the lesions and response to treatment.

The treatment consisted of applying the product packaged as foam/spray 3 times a day for one month and a light massage. The patients were monitored monthly in the Dermatology office.

The evaluation criteria are given by the disappearance of the alopecia plaques or a decrease in their diameters at the end of the treatment.

The response to treatment was defined as: Excellent (E) for the disappearance of alopecia plaques; Good (G) for the recovery of hair of more than 50%; Regular (R) if the recovery is less than 50% and Poor (P) for an invariable clinical picture.

The product used was **Alopel®** (from the Catálisis Laboratories of Madrid), composed of oleanolic acid that is found naturally in numerous plants including *Mirabilis jalapa*, and whose mechanism of action is to block the inflammatory response, while regulating the immune response, vasodilatory agent and restorer of endothelial dysfunction;⁽¹⁶⁾ apigenin, a natural preventive antioxidant flavonoid present in fruits and vegetables, which has anti-inflammatory, antioxidant, antiangiogenic, antiallergic, antigenotoxic, anticancer properties; activated acetyl tetrapeptides and *Trifolium pratenses* (red clover), a herbaceous plant that contains the following active substances: tannin, glycosides, phenolic substances, flavones and soflavones. The latter are converted into phytoestrogens in the body, which are similar to the hormone

estrogen. There is not enough information to evaluate the safety of red clover when applied to the skin.^(14,15)

The data obtained were collected using a notebook. The data were entered into the Microsoft Excel package of Microsoft Office 2010 and the statistical method of calculating percentages was applied. The results were presented in tables.

Methods

In relation to age, there was a predominance of the 10 to 14 year-old group, with 9 patients for 45% of the total, followed by the 5 to 9 year-old group, which represented 30%. There was only one case under 5 years of age, 5% (Table 1).

Table 1. Distribution of patients by age group.

Age groups (years)	Amount	%
Less than 5	1	5
5 - 9	6	30
10 - 14	9	45
15 - 18	4	20
Total	20	100

n=20

Females predominated with 70% of cases and white skin color (60%), followed by mestizos (25%). Some patients had psychological factors (60%), which included divorce of parents, absence of parents due to working outside the home, family quarrels, alcoholic parents, and poor adaptation to school. 35% had a personal history of alopecia or other diseases that have been related to AA. In 9 cases a family history of alopecia was recorded, which represented 45% of the total (Table 2).

Table 2. Distribution of patients according to personal and family pathological history.

Type	Personal pathological history		Family pathological history	
	No.	%	No.	%
Alopecia	2	10	9	45
Atopy	2	10	-	-
Down syndrome	3	15	-	-
Psychological factors	12	60	-	-
Total	19	95	9	45

The best results were obtained in patients with fewer plaques. The response was excellent in 85.7% of those with only one plaque, and in 100% of those with two and three. However, of the 3 cases of total alopecia, 2 completely regrowth occurred (66.6%) and 1 more than 50% (Table 3).

Table 3. Distribution of cases according to evolution time and results.

Time of evolution	No. of Cases		Results							
			Excelent		Good		Regular		Poor	
	No.	%	No.	%	No.	%	No.	%	No.	%
1 – 4 years	43	86	39	90,7	2	4,7	2	4,7	0	-
5 – 8 years	7	14	2	28,6	4	57,1	1	14,3	0	-
Total	50	100	41	82,0	6	12,0	3	6,0	0	-

Regarding the results obtained after the application of the treatment, 17 patients had an excellent response, 85% of the total; this response was higher in patients who had 1 to 4 years of evolution of the lesions, with 94.1%. Only one case had a regular response (5%). It is important to note that in the cases that had 5 to 8 years of evolution of the disease, there were 2 that had a good evaluation (66.7%) (Table 4).

Table 4. Distribution of cases according to the number of plaques and their results.

Number of plaques	No. of Cases	Results							
		Excelent		Good		Regular		Poor	
		No.	%	No.	%	No.	%	No.	%
1 plaque	16	15	93,8	1	6,2	-	-	-	-
2 plaques	5	4	80,0	1	20,0	-	-	-	-
3 plaques	8	7	87,5	1	12,5	-	-	-	-
Various plaques (+3)	13	10	76,9	1	10,0	2	20,0	-	-
Total alopecia	8	5	62,5	2	25,0	1	12,5	-	-
Total	50	41	82,0	6	12,0	3	6,0	0	-

In general, we found that 85% of the cases had an excellent result, 10% a good one and 5% a regular one (Fig. 1 y Fig. 2).

All cases benefited physically and psychologically from the medication. No adverse effects were reported and the degree of patient satisfaction was good.

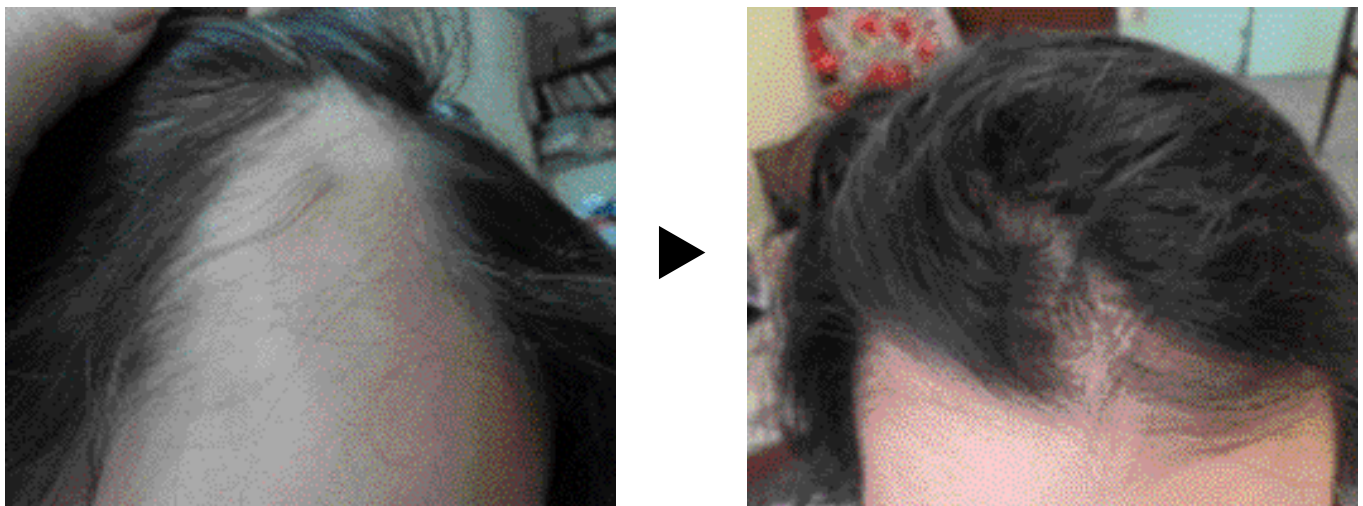


Fig. 1. Evolution of lesions in a patient before treatment and after 2 months of application.



Fig. 2. Excellent response to treatment in a female patient, after three months of treatment.

Discussion

In the study we observed a predominance of the 10 to 14 year old group, followed by the 5 to 9 year old group, which coincides with what was proposed by Cortes Mardones and Zemelman, who consider that 60% of patients with AA presented their first plaque between 5 and 20 years of age.⁽³⁾

There was a predominance of the female sex and white skin color, however in the reviewed literature it is stated that there is no distinction with respect to sex and race.⁽⁶⁾

Regarding the presence of personal or family history, Fernández and Macoc in their experience of 265 cases found an association with vitiligo and atopic habit.⁽⁴⁾ De la Torre associates it with lupus erythematosus,⁽¹³⁾ Reyes and Barban relate it with vitiligo, predicting a poor prognosis in these patients. cases,⁽⁹⁾ while Olguín, Martín and Rodríguez attach great importance to psychological factors as triggers or causes of alopecia areata episodes.⁽¹¹⁾

The results obtained were proportional to the time of evolution of the lesions. According to what is reported in the literature, it is usual that when the lesions are going to respond, either spontaneously or with the therapies frequently used, they do so in the first year of the disease and that the longer the time of evolution of the lesions, the greater the resistance to the treatments.⁽⁶⁾ However, in this preliminary study, 3 children with more than 5 years of illness had an excellent response, of which 2 have Down syndrome and presented total alopecia.

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