INTRODUCTION

Alopecia Areata (AA) is a common, localized, inflammatory disease in which non-scaring hair loss occurs mainly on scalp but can occur at any hair bearing area. Its exact cause is not known but it is thought that autoimmunity plays a role. It affects 0.1 - 0.2% of the population. Familial incidence of alopecia areata is 10 - 42%. However, in monozygotic twin, it is 50%. It can occur at any age but is more common in young individuals. Both male and female are equally affected with no racial predilection. It can progress to develop total loss of scalp hair (alopecia totalis) or all body hair (alopecia universalis). Clinically it usually presents as round or oval shaped patch or can present as extension of alopecia along scalp margin as band like lesion known as ophiasis. It may involve nails as pitting, longitudinal or transverse striation, or onychodystrophy. On histopathology of skin, there is perifollicular inflammatory infiltrate of lymphocytes mainly at peribulbar region. Alopecia areata is associated with other autoimmune diseases such as thyroid disorders, pernicious anemia, vitiligo and atopic disease. Treatment of alopecia areata is important as this disease can lead to significant changes in appearance of patient and, therefore, may result in social phobia, anxiety and depression. There are many treatment modalities for treating alopecia areata. Most commonly used are steroids which are given topically, intralesionally or as a systemic agent. Other treatment options are topical minoxidil, topical diathranol and anthralin, contact immunotherapy, phototherapy and oral cyclosporin. Intralesional triamcinolone is the most commonly used method of treatment. Intralesional triamcinolone has been successfully used for the management of localized alopecia areata.

ORIGINAL ARTICLE

Intralesional Triamcinolone Acetonide Versus Topical Betamethasone Valearate in the Management of Localized Alopecia Areata

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ABSTRACT

Objective: To compare the efficacy of intralesional triamcinolone and topical betamethasone in the management of localized alopecia areata.

Study Design: A randomized trial.

Place and Duration of Study: Dermatology OPD, PNS Shifa Hospital, Karachi, from January to June 2013.

Methodology: Patients aged 18 - 50 years with localized alopecia areata were included in the study. Exclusion criteria were more than three patches and those on already steroid or immunosuppressive therapy. Patients were randomly allocated in two treatment groups: Group A received intralesional triamcinolone acetonide (10 mg/ml) and Group B received topical betamethasone valearate cream 0.1% twice daily. Final outcome was ascertained as re-growth of hair on 12th week of follow-up and labelled as efficacy. The data was entered and analyzed using SPSS version 11. Relevant descriptive statistics were calculated. Chi-square test was used to compare efficacy of hair re-growth in both groups. P-value < 0.05 was considered significant.

Results: A total of 226 patients were enrolled, 113 in each group. The mean age was 34.36 ±8.7 years. One hundred and sixty-four (72.6%) were males and 62 (27.4%) were females with male to female ratio of 2.6:1. Hair re-growth was seen in 84 (74.3%) of the intralesional steroid group and in 53 (46.9%) of the topical betamethasone group (p < 0.001), which was a significant difference.

Conclusion: Intralesional triamcinolone had a better efficacy in the treatment of localized alopecia areata as compared to topical betamethasone valearate.


INTRODUCTION

Alopecia Areata (AA) is a common, localized, inflammatory disease in which non-scarring hair loss occurs mainly on scalp but can occur at any hair bearing area. Its exact cause is not known but it is thought that autoimmunity plays a role. It affects 0.1 - 0.2% of the population. Familial incidence of alopecia areata is 10 - 42%. However, in monozygotic twin, it is 50%. It can occur at any age but is more common in young individuals. Both male and female are equally affected with no racial predilection. It can progress to develop total loss of scalp hair (alopecia totalis) or all body hair (alopecia universalis). Clinically it usually presents as round or oval shaped patch or can present as extension of alopecia along scalp margin as band like lesion known as ophiasis. It may involve nails as pitting, longitudinal or transverse striation, or onychodystrophy. On histopathology of skin, there is perifollicular inflammatory infiltrate of lymphocytes mainly at peribulbar region. Alopecia areata is associated with other autoimmune diseases such as thyroid disorders, pernicious anemia, vitiligo and atopic disease. Treatment of alopecia areata is important as this disease can lead to significant changes in appearance of patient and, therefore, may result in social phobia, anxiety and depression.

There are many treatment modalities for treating alopecia areata. Most commonly used are steroids which are given topically, intralesionally or as a systemic agent. Other treatment options are topical minoxidil, topical diathranol and anthralin, contact immunotherapy, phototherapy and oral cyclosporin. Intralesional triamcinolone is the most commonly used method of treatment. Intralesional triamcinolone has been successfully used for the management of localized alopecia areata. However, it is painful and invasive procedure and have side effects like steroid induced atrophy, folliculitis and iatrogenic cushioning syndrome. On the other hand, topical betamethasone is easy to apply as it is non-invasive and does not require any trip to the hospital.

The aim of this study was to compare efficacy of intralesional triamcinolone with topical betamethasone valearate for the management of localized alopecia areata.
Steroid management of localized alopecia areata

METHODOLOGY

This study was conducted in Dermatology Outpatient Department of PNS Shifa Hospital, Karachi, after approval by the Ethical Review Board Committee, as a randomized trial. Duration of study was 6 months. Sample size was 226 patients, 113 in each group calculated by keeping re-growth of 60% in intralesional triamcinolone and 54% topical betamethasone with 90% power and 95% confidence level. Sampling technique was non-purposive consecutive sampling.

Patients aged 18 - 50 years of either genders, who had never received treatment for hair loss and having non-scarring patchy hair loss (less than 3 patches), were included in the study. Those with extensive alopecia areata (more than 3 patches), alopecia universalis, alopecia totalis, and ophiasis, and those taking systemic glucocorticoids or immunosuppressives were excluded from the study.

Patients were randomly allocated in two treatment groups by computerized generated random number using MS Excel software – Group A was intralesional triamcinolone and Group B was topical betamethasone. The treatment allocation was concealed in envelopes. History of hair loss was taken and on examination round or oval patches of hair loss on scalp or elsewhere were noted. Each patient was randomly allocated to intralesional triamcinolone or topical betamethasone group by opening serially numbered envelopes. Patients belonging to intralesional steroid group were given I/L steroid 10 mg/ml every 3 weeks using insulin syringe; and those belonging to topical betamathasone group were given topical betamethasone 0.1% cream twice daily. Then the patients were followed up in the OPD at 3 weeks, 6 weeks, 9 weeks and 12 weeks intervals. Hair re-growth was assessed using hair re-growth scale (Scale I - IV) as Scale-I (0 - 25%), Scale-II (26 - 50%), Scale-III (51 - 75%), Scale-IV (76 - 100%). A baseline picture was taken. Then the hair re-growth pattern was noted and picture was taken on each follow-up. Final outcome was ascertained on 12th week of the follow-up and labelled as efficacy.

The data were entered and analyzed using Statistical Packages for Social Sciences version 11. Frequencies and percentages were computed for qualitative variables like gender and number of patches, size of patches and efficacy. Mean ±SD for continuous variable like age was calculated and p-value by using student t-test. Chi-square test was used to compare efficacy of hair re-growth in both groups. P-value < 0.05 was considered significant.

RESULTS

A total of 226 patients were enrolled in this study during the study period. The mean age of enrolled participants was 34.36 ±8.7 years. Of 226 patients, 164 (72.6%) were males and 62 (27.4%) were females with male to female ratio of 2.6:1. Duration of disease was < 6 months in 197 (87.2%) cases, 172 (76.1%) had single patch, 136 (60.2%) had 3 cm patch and 137 (60.6%) regrew hair.

The baseline characteristics are summarized in Table I. The distribution of age, sex, duration of disease, number of patches and size of patches across arms are not statistically significant. However, hair re-growth is significantly higher in triamcinolone group (p < 0.001).

The efficacy of intralesional triamcinolone is significantly higher compared to betamethasone (p=0.430, Table II).

Stratified analysis of efficacy was done by age and duration of disease (Tables II and III). No significant difference in response was observed in age < 35 years and > 35 years; and duration of disease < 6 months and > 6 months.

DISCUSSION

Alopecia areata adversely affects the quality of life of the patients. AA have well documented psychological complications like depression, low self esteem, altered self image, and social detachment. Therefore, adequate treatment of alopecia areata is mandatory.

There are number of modalities, both topical and systemic, available for treatment of alopecia areata. Corticosteroids remain the mainstay of treatment in all forms whether topical, intralesional and systemic. Other modalities include contact immunotherapy, immunosuppressives like cyclosporin, phototherapy and cosmetic camouflage. Various studies have been conducted to compare the efficacy of various modes of steroid administration like topical, under occlusion and...
intralesional steroids showing variable results. A multicenter prospective, randomized, controlled, investigator-blinded trial in patients with less than 26% hair loss showed more than 75% hair re-growth rate in 61% of patients using 0.1% betamethasone valerate foam in comparison with 27% in the 0.05% betamethasone dipropionate lotion group. The potent topical corticosteroids, as a foam or non-foam preparations (under occlusion), seem to be effective in treating AA over scalp. A comparative study was conducted in University of Columbia and British Columbia comparing different regimens in AA patients, which reported very good hair re-growth with local steroids in majority of cases. These regimens were painless and effective but needed longer treatment. The side effects of prolonged therapy were folliculitis, telangiectasia, striae, pigmentary alteration and atrophy. National Guidelines from British Association of Dermatologists recommend intralesional corticosteroid therapy as the first line treatment for localized patchy AA, with approximate success rate of 60 - 75%. The prospective study using triamcinolone acetonide (5 - 10 mg/ml), intradermal at 2 - 6 weeks interval reported localized hair re-growth at 60 - 70% of injection sites. Minor side effects (pain, burning and atrophy at injection sites) were reported by some cases, which might be minimized by using 5 mg/ml strength of the drug and increased duration between successive injections.

In the present trial, the authors compared the efficacy of topical betamethasone valerate and intralesional triamcinolone acetonide. The results of this study showed that intralesional steroid has better hair re-growth 74.3% as compared to topical betamethasone which showed efficacy of 46.9%. P-value of < 0.01 which showed a significant difference. Stratified analysis of efficacy for age groups (< 35 years and > 35 years) and duration of disease were not significantly different.

The advantages of topical betamethasone are self administration, no pain and chances of atrophy are minimal. Intralesional triamcinolone is painful, invasive, requires a visit to the hospital and risk of systemic absorption and side effects.

The limitations of present study are lack of follow-up to see sustained response, and absence of control group. Small sample size may be another limitation.

CONCLUSION

The results of this study show the better efficacy of intralesional triamcinolone as compared to topical betamethasone valerate in the treatment of localized alopecia areata.

REFERENCES


