

Effectiveness of Triamcinolone Acetonide Vs. Combination of Triamcinolone Acetonide and Betamethasone Dipropionate in Oral Lichen Planus. A Comparative Study

Muhammad Adeel¹, Shakeel Ahmad², Sana Zafar³, Danish Javed⁴, Hira Shafique⁵ and Nayab Khalid⁶

ABSTRACT

Objective: The purpose of this study is to see if the combination therapy of topical triamcinolone acetonide and betamethasone dipropionate is more effective as compared to the alone use of topical triamcinolone acetonide or not.

Study Design: Prospective Study

Place and Duration of Study: This study was conducted at the Tertiary Care Hospital setting from February 2020 to January 2021 for a period of 11 months.

Materials and Methods: Two groups i.e., Group A and Group B were made by randomly dividing the patients. Group A received 0.1% Triamcinolone acetonide while Group B received combination of triamcinolone acetonide 0.1% and betamethasone dipropionate 0.05%. Patients were instructed to apply the medication three times a day and then followed up after 2 weeks, first month, second month and third month respectively. At each visit, size of the lesion and symptoms were evaluated and the data collected was analyzed.

Results: Combination of triamcinolone acetonide 0.1% and betamethasone dipropionate 0.05% is found better in improving the symptoms of oral lichen planus and reducing the size of the lesion as compared to the alone 0.1% triamcinolone acetonide. Combination therapy has also provided better complete resolution of the lesion.

Conclusion: The authors concluded that combination drug therapy has better results as compared to the single drug therapy in cases of oral lichen planus. Due to the ongoing research in this domain newer drugs and their combinations are being proposed for treatment of oral lichen planus. According to the study, combination of triamcinolone and betamethasone provided better relief as compared to the alone triamcinolone. It will be a cost effective and reasonable combination as well as compared to the other newly developed costly alternatives.

Key Words: Oral lichen planus, betamethasone dipropionate, triamcinolone acetonide, oral cavity.

Citation of article: Adeel M, Ahmad S, Zafar S, Javed D, Shafique H, Khalid N. Effectiveness of Triamcinolone Acetonide Vs. Combination of Triamcinolone Acetonide and Betamethasone Dipropionate in Oral Lichen Planus. A Comparative Study. Med Forum 2021;32(6):75-78.

INTRODUCTION

Oral lichen planus is an inflammatory mucocutaneous disease with a chronic nature and have an incidence of about 0.5-2% in a general population. Females are more commonly affected as compared to males with a gender predilection of 1.4:1^{1,8}. Different varieties of oral lichen planus are found like reticular, erosive, atrophic, ulcerative, papular, plaque-like and desquamative

¹. Department of Oral Medicine / Oral & Maxillofacial Surgery² / Oral Biology³ / Oral Pathology⁴ / Community Dentistry⁵ / Physiology⁶, Islam Dental College, Sialkot.

Correspondence: Dr. Muhammad Adeel, Assistant Professor of Oral Medicine, Islam Dental College, Sialkot.

Contact No: 0335-752386

Email: dentdocadeel.butt@gmail.com

Received: February, 2021

Accepted: March, 2021

Printed: June, 2021

gingivitis, of which reticular is the commonest variety⁸. Reticular, plaque-like, and papular modifications tend to be asymptomatic varieties. Exact etiology of the disease is not known but stress, anxiety, depression, diabetes mellitus, hepatitis C, dental materials are considered to be the prompting factors^{2,14}. Another group of researchers claim that it is an autoimmune disease that is characterized by CD8+ cells mediated apoptotic activity in the basal layer of epithelium leading to this disease^{2,15}. Mostly the history taking and clinical findings are used to make diagnosis but biopsy is confirmatory. On histopathological examination, oral lichen planus show saw-tooth rete pegs along with civatte bodies⁹.

A wide variation of treatment modalities and medications are available for this condition but none of them have been proved to provide a definitive cure. Corticosteroids are the leads followed by retinoids, tacrolimus, dapsone, cyclosporin, hydroxychloroquine, antibiotics, mycophenolate etc. Photodynamic therapy along with lasers are also used now to manage the condition^{3,6}. As corticosteroids are playing

leading role so considering it, we decided to compare the effectiveness of corticosteroids as a single drug therapy and combination drug therapy. Here we used triamcinolone acetonide 0.1% as a single drug and triamcinolone acetonide 0.1% along with betamethasone dipropionate 0.05% as combination drug therapy. Steroids work by modulating the immune response and inflammation^{11,13}.

MATERIALS AND METHODS

This study is a single blind prospective study that was conducted in a tertiary care hospital setting from February 2020 to January 2021 after being approved by the institutional ethical committee. Patients presented to the oral medicine OPD with white lesions having characteristic oral lichen planus were biopsied. After taking proper informed consent, those patients having confirmed histopathological report of oral lichen planus were included in the study

Inclusion Criteria: Patients with confirm histopathological report of oral lichen planus having no signs of malignancy and ready to come up for follow up with an age group above 20 years of either gender and haven't received any treatment before.

Exclusion Criteria: patients with an age less than 20 years, uncontrolled diabetes mellitus, pregnancy, lactating females, features of malignancy and have previously got some therapies were excluded from the study.

The selected patients (n=32) were divided in to two groups using a random number table. Group A (n=16) was given 0.1% triamcinolone acetonide alone and group B received 0.1% triamcinolone acetonide and 0.05% betamethasone dipropionate. Initial size of the lesion was noted by taking photographs and Vernier calipers and symptoms (pain and burning sensations) were distinguished by using a Ten-point visual analogue scale (VAS). All of the patients were taught to use the medication topically thrice daily after meal and continue using the medication for 3 months. The patients were given a follow up after two weeks, one month, two month and three months to check improvements. An improvement of 2 points on visual analogue scale for symptoms and reduction in size of the lesion by 25% of the initial size were taken as positive responses. At the end, we calculated the patients who got completely recovered, patients with partial recovery and patient with resistant lesions and the results of both groups were compared by using a chi square test.

RESULTS

Nine males and seven females were included in group A and eleven males and five females in group B. On evaluation of improvements in symptoms (pain and burning sensations), we found that 68.75% of patients in Group A and 87.5% of patients in Group B showed

improvements after 2 weeks. This increased to 81.25% in group A and 93.75% in group B at 1st month follow-up. Then on 2nd month follow-up it increased to 87.5% in group A and 100% in group B. Similarly, the results found on 3rd month follow up showed improvements in 87.5% of patients in Group A and 100% in group B as shown in Chart 1. At the end of the study, it was found that 2 patients in group A had persistent symptom as shown in chart 3.

While considering improvements in the size of the lesion, Group B had showed better improvements than group A. It was statistically significant during the 2nd week, 1st month, 2nd month and 3rd month of evaluation as shown in chart 2.

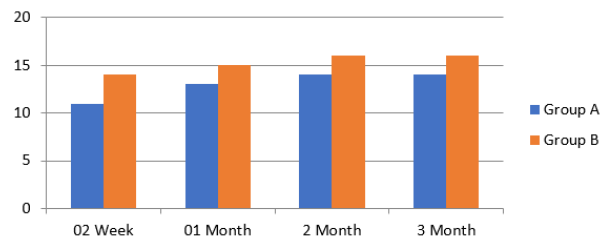


Figure No.1: Patients with improvements in symptoms (pain & burning sensations)

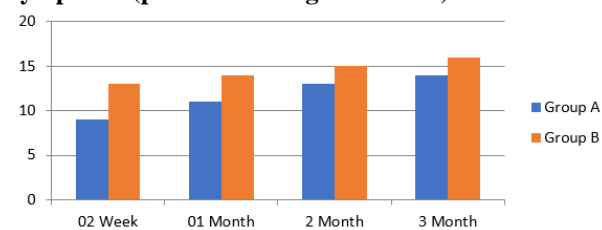


Figure No.2: Patients with reducing size of lesion

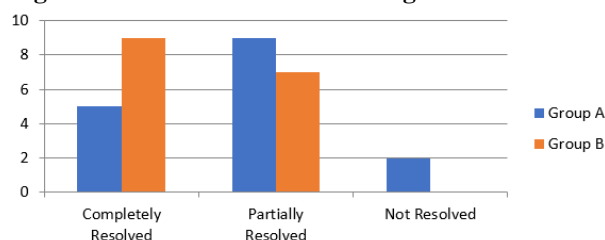


Figure No.3: Degree of Response showed by lesion in both groups

DISCUSSION

Currently, it is stressed that local therapy should be favored for managing oral lichen planus rather than systemic therapy¹⁰. It is due to the fear of the adverse effects of the systemic therapy. But in those cases where there is repeated recurrence of the lesion, systemic drug therapy may be the choice^{2,11}. This study shows that 0.1% triamcinolone acetate is better in controlling the symptoms as well as size of the lesion of oral lichen planus but results are much better when combination of 0.1% triamcinolone acetate and 0.5% betamethasone dipropionate are used.

Le Clech et al recommended topical corticosteroids as first line therapy for managing oral lichen planus.⁴ In 2007, a randomized control study was carried out that showed by the use of 0.1% triamcinolone acetate there is 50% improvement in patients of oral lichen planus.⁵ Lodi, Giovanni et al also recommended that topical corticosteroids available in gel or similar preparations are found very effective in managing OLP¹⁰.

Suresh SS et al conducted randomized control trials of different therapies for symptomatic OLP and they found that corticosteroids are the most common drugs providing relief to the patients of OLP¹².

Samimi M et al, conducted clinical trials comparing effectiveness of betamethasone dipropionate vs. rapamycin in treating oral lichen planus and they found out the betamethasone dipropionate is very much effective in relieving the pain and reducing the size of the lesion¹⁶.

In the present study, Group B patients getting combination therapy showed better response in comparison to the patients of group A who had been treated with only 0.1% triamcinolone acetate. This is evident from the statistical variance between the two groups in the starting period of the study.

The final lesion was graded as completely resolved (no clinically detected lesion present), partially resolved (25% reduction in size of the lesion) and not resolved (less than 25% change in lesion). In Group A 31.25% showed complete resolution while in Group B 56.25% showed complete resolution. Similarly, in Group A 56.25% showed partial resolution as compared to Group B that showed 43.75% partial resolution of the lesion. Thogsparsom et al study showed equal (50%) figure of complete and partial resolution. In another study these numbers were 30% and 16% respectively⁷.

CONCLUSION

The authors concluded that combination drug therapy has better results as compared to the single drug therapy in cases of oral lichen planus. Due to the ongoing research in this domain newer drugs and their combinations are being proposed for treatment of oral lichen planus. According to the study, combination of triamcinolone and betamethasone provided better relief as compared to the alone triamcinolone. It will be a cost effective and reasonable combination as well as compared to the other newly developed costly alternatives.

Author's Contribution:

Concept & Design of Study: Muhammad Adeel
 Drafting: Shakeel Ahmad, Sana Zafar
 Data Analysis: Danish Javed, Hira Shafique, Nayab Khalid
 Revisiting Critically: Muhammad Adeel, Shakeel Ahmad

Final Approval of version: Muhammad Adeel

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. Canto AM, Müller H, Freitas RR, Santos PS. Oral lichen planus (OLP): clinical and complementary diagnosis. *An Bras Dermatol* 2010;85(5):669-75.
2. Qazi JA. Treatment of oral lichen planus with topical tacrolimus and triamcinolone acetate ointment a comparative study. *Pak Oral Dental J Peshawar* 2010;30(1):19-21.
3. Malhotra AK, Khaitan BK, Sethuraman G, Sharma VK. Betamethasone oral mini-pulse therapy compared with topical triamcinolone acetate (0.1%) paste in oral lichen planus: A randomized comparative study. *J Am Acad Dermatol* 2008;58(4):596-602.
4. Le Cleach, Planus L. *The New England Journal of Medicine*; Boston 2012;366(8):723-32.
5. Kar HK, Prasad D, Gautam RK, Jain RK, Sharma PK. Comparison of topical tretinoin and betamethasone in oral lichen planus. *Ind J Dermatol Venereol Leprol* 1996;62:304-5.
6. Swain S, Radhakrishnan ST, Panigrahi SK, Biswal MR. Triamcinolone acetate vs combination of triamcinolone acetate and isotretinoin in treatment of oral lichen planus: a comparative study. *Int J Otorhinolaryngol Head Neck Surg* 2018;4:776-9.
7. Thongprasom K, Chaimusig M, Korkij W, Sererat T, Luangjarmekorn L, Rojwattanasirivej S. A randomized-controlled trial to compare topical cyclosporin with triamcinolone acetate for the treatment of oral lichen planus. *J Oral Pathol Med* 2007;36(3):142-6.
8. Gorouhi, Farzam, et al. Cutaneous and mucosal lichen planus: a comprehensive review of clinical subtypes, risk factors, diagnosis, and prognosis. *The Scientific World J* 2014.
9. Nosratzahi, Tahereh. Oral Lichen Planus: an Overview of Potential Risk Factors, Biomarkers and Treatments. *Asian Pacific J Cancer Prevention: APJCP* 2018;19(5):1161-1167.
10. Lodi, Giovanni, et al. Interventions for treating oral lichen planus: corticosteroid therapies. *The Cochrane database of systematic reviews* 2020;2(2):CD001168.
11. Swain, Smruti, Radhakrishnan, Sruthi, Panigrahi, Saroj, et al. Triamcinolone acetate vs. combination of triamcinolone acetate and isotretinoin in treatment of oral lichen planus: a comparative study. *International Journal of Otorhinolaryngology and Head and Neck Surg* 2018;4:776-9.
12. Suresh SS, Chokshi K, Desai S, Malu R, Chokshi A. Medical Management of Oral Lichen Planus: A

- Systematic Review. *J Clin Diagn Res* 2016;10(2):ZE10-ZE15.
13. Piñas L, García-García A, Pérez-Sayáns M, Suárez-Fernández R, Alkhraisat MH, Anitua E. The use of topical corticosteroides in the treatment of oral lichen planus in Spain: A national survey. *Med Oral Patol Oral Cir Bucal* 2017; 22(3):e264-e269.
 14. Anitua E, Piñas L, Alkhraisat MH. Histopathological features of oral lichen planus and its response to corticosteroid therapy: A retrospective study. *Medicine (Baltimore)* 2019;98(51):e18321.
 15. Gupta S, Jawanda MK. Oral Lichen Planus: An Update on Etiology, Pathogenesis, Clinical Presentation, Diagnosis and Management. *Ind J Dermatol* 2015;60(3):222-9.
 16. Samimi M, Le Gouge A, Boralevi F, Passeron T, Pascal F, Bernard P, et al. Topical rapamycin versus betamethasone dipropionate ointment for treating oral erosive lichen planus: a randomized, double-blind, controlled study. *J Eur Acad Dermatol Venereol* 2020;34(10):2384-2391.