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VALIDATION OF ORAL DISEASE SEVERITY SCALE (ODSS) IN ORAL LICHEN PLANUS

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ABSTRACT

Oral Lichen Planus (OLP) is a chronic inflammatory autoimmune mucocutaneous disease characterized by a T cell-mediated immune response against epithelial cells. Diagnosis and treatment of these lesions is always challenging. Prior to the start of treatment, disease activity or severity should be scored which will determine the disease prognosis, response to treatment. This study aims to validate the oral disease severity scoring (ODSS) developed by Guy's Hospital for Oral Lichen Planus. 10 adult patients between 30 – 65 years, newly diagnosed with erosive lichen planus (based on clinical and histopathological findings) participated in the study.Pre - treatment ODSS was done to assess oral involvement.Post - treatment oral disease scoring was done after 4 week of topical steroid therapy.10 patients (2 males/ 8 females) with clinically proven erosive Lichen planus were included in the study.The pre- treatment mean oral disease severity score was 29.1 ± 12.235 and 4 weeks post treatment - 19 ± 6.325. The overall improvement in severity was 53%.Scoring disease activity and severity would give a quantification to assess the disease process.Response to

treatment and disease status during each follow - up can be assessed.Routine use of validated disease severity score would be an ideal tool for multi - centric research and drug trials.

Keywords: oral lichen planus, disease severity, mucocutaneous diseases

INTRODUCTION

Oral Lichen Planus (OLP) is a chronic inflammatory autoimmune mucocutaneous disease characterized by a T cell-mediated immune response against epithelial cells **[1]**.The term lichen originates from Greek word 'leichen' signifies moss while 'planus' signifies flat surface**[2]**. OLP affects the oral mucosal surfaces of 0.5 to 2 % of the adult population **[3]**. The prevalence of oral lichen planus in Indian population is 2.6% with more female predilection **[4]**. These lesions have a malignant transformation rate of 0.5 to 2% and are regarded as potentially malignant lesions **[5]**. There are six clinically recognized patterns of OLP: reticular, papular, Plaque like, ulcerative, erythematous and bullous. The cutaneous variant of OLP is described as 6 'P's – Purple, pruiritic, papular, planar, polygonal and plaques. Lesions are usually bilateral and asymmetric **[6]**. Involvement of genital mucosa is a common manifestation of cutaneous Lichen planus.

Diagnosis is done with the combination of both clinical and histopathological features. Presence of histopathological features of ortho/ parakeratinization, saw tooth rete pegs, liquefaction degeneration and band of eosinophils below the basement membrane are diagnostic of LP **[7]**. Treatment usually involves topical steroids – high and medium potency steroids, calcineurin inhibitors, retinoids and various other therapies like photo dynamic and low level laser therapy **[8,9]**.

Several scoring systems have been employed to assess the severity of OLP. One of the oldest and widely used scale was developed by Thongprasom *etal* in 1992 **[10]**. Other scales include Pinboonniyom et al, 2005; Escudier et al, 2007 and Malhotra et al, 2008 [11]. Of these, the Oral disease severity scoring (ODSS) has been used and validated in multiple chronic oral mucosal lesions with multiple site involvement like pemphigus vulgaris and mucous membrane pemphigoid**[12,13]**. The Oral Disease Severity Score (ODSS) is a comprehensive scoring methodology devised by the Oral Medicine group at Guy's Hospital as part of a strategy of having disease severity scores applicable to most, if not all, oral mucosal diseases. The ODSS records the presence of lesions and degree of activity at multiple oral sites. Additionally it includes a subjective assessment of the patient's

degree of oral pain. The previous studies have shown good reliability for both MMP, PV and OLP. The scale can also be used to grade the response to treatment **[14]**. Although validated in multiple oral mucosal lesions, the ODSS is not widely used. ODSS includes a multiple site scoring (17 sites), the disease activity score and the Visual analogue scale. Score ranges from 0 to 2 based on the site. The activity score ranges from 0 to 4 based on severity of disease. The total score is obtained by adding the site score, activity score and the VAS score. The theoretical maximum total score is 106; however greater than 95% of patients would be expected to have scores in the range from 0 to 60 representing a clinical range from remission to severe disease **[15]**. ODSS can be used for analysis of therapeutic response of the disease and for documentation. The aim of the study is to validate use of ODSS for the assessment of oral involvement of OLP.

MATERIAL AND METHODS

10 adult patients (2 males/ 8 females) between the ages of 30 and 65 years, newly diagnosed based on clinical and histopathological findings as erosive lichen planus were recruited to participate in the study. Pre - treatment ODSS including the site score, the activity score and the VAS scale were recorded by one observer to assess oral involvement of the disease. After 4 weeks of topical steroid therapy (0.1% triamcinolone oral paste and 0.5mg betamethasone as mouthwash twice a day), the patients were recalled. Post treatment ODSS scoring was done to assess the improvement from treatment by the same observer.

RESULTS

The pre – treatment site score ranged from 2 to 13 (mean – 8.1). The total activity score ranged from 4 to 28 (Mean – 14). The VAS score was ranged between 4 and 8. The total ODSS score is the sum of site score, activity score and the VAS score. The total score was between 10 and 49. The pre- treatment mean and standard deviation of oral disease severity score was 29.1 ± 12.235.

The post – treatment site score ranged from 2 to 8 (mean – 5.9). The total activity score ranged from 2 to 16 (Mean – 8.7). The VAS score was ranged between 3 and 5. The total score was between 8 and 27.The post – treatment mean and standard deviation of oral disease severity score was 19 ± 6.325. The overall improvement in severity was 53%.

DISCUSSION

Corticosteroids have been the main modality of treatment for OLP. The most recent Cochrane systematic review concluded that topical delivery of corticosteroids may be more effective in

reducing pain when compared to placebo. The other treatment modalities that can be used are calcineurin inhibitors, photodynamic therapy, low level laser therapy, curcumin tablets and BacillusCalmette-Guerin polysaccharide nucleic acid (BCGPSN) local injections **[16]**.

The pre – treatment scores in our study have shown a decrease post treatment with topical steroids. The decreased ODSS and overall improvement of severity over 50% shows efficacy of the treatment. The use of an oral disease severity scoring system provided an objective means of assessing treatment efficacy, with quantifiable improvement. The scoring system, although initially seeming complex, is easy to use and has proved useful in guiding treatment of OLP.

Comparison of different scales developed for scoring OLP was done by López-Jornetand Camacho-Alonso concluded that a uniform scoring system has to be adopted for OLP and that there was a statistically significant difference between the Escudier, 2007 and Malhotra, 2008 scales **[17]**.

This study has demonstrated the value of the ODSS for assessment of disease severity in OLP and by assessing activity 17 oral sites it provides the potential to accurately monitor response to treatment. It is easy to use and quick to learn and is designed for use in oral medicine, dermatology and other relevant clinical specialities. Its additional versatility for use in PV and MMP is an added advantage over other scoring methodologies.

CONCLUSION

Scoring disease activity and severity would give a quantification to assess the disease process. Response to treatment and disease status during each follow - up can be assessed. Routine use of validated disease severity score would be an ideal tool for multi - centric research and drug trials.

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