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RESEARCH ARTICLE

COMPARITIVE EVALUATION OF ANXIETY AND DEPRESSION IN ORAL LICHEN PLANUS PATIENTS WITH HEALTHY CONTROLS- A CASE CONTROL STUDY

Dr.*Pallavi Ambhore, Dr. Lata Kale, Dr. Sonia Sodhi, Dr. Rashmi Phadnis and Dr. Aishwarya Kale

Department of Oral Medicine and Radiology, Csmss Dental College and Hospital, Aurangabad, Maharashtra, India

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Abbreviations- OLP (oral lichen planus.),
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scale). A (anxiety) , D(depression)

*Corresponding author:

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INTRODUCTION

Oral lichen planus is a condition that affects the oral mucosa as well as skin. The association of psychosomatic or psychosocial stressors and the occurrence of lichen planus is well known. Lichen planus is a chronic disease affecting the skin, scalp, nails and mucosa with possible malignant degeneration (Chaudhary, 2004). It is a common multifactorial disease and there is considerable data to suggest that immunological mechanisms are fundamental in the initiation and perpetuation of lichen planus (Chaudhary, 2004). Certain drugs may also provoke eruptions (lichenoid reactions) that clinically and histologically resemble lichen planus (Chaudhary, 2004). Oral lichen planus (OLP) is an autoimmune disease mediated by T-lymphocytes to a still unknown antigen. However, in some patients, certain associated factors such as heredity, chronic liver disease in some parts of the world, autoimmune susceptibility and psychological disturbances cause elevated scores for anxiety and depression in patients with OLP (Koo, 1992). Hampf *et al.* (1987) found a significant difference in the mental disturbance between OLP and non-OLP patients.

Although a number of epidemiological studies have been carried out in order to obtain data such as prevalence, distribution according to age, sex, clinical types, intraoral locations, and the association of psychological factors with OLP (Dermatology, 1993). Psychological symptoms of anxiety, depression, and stress seemed to have a significant prevalence in patients with OLP (Pati *et al.*, 2014). Therefore to evaluate the psychosocial factors like anxiety and depression and their association with occurrence of oral lichen planus we have conducted this study in our department.

MATERIAL AND METHODS

This study was conducted in the department of oral medicine and radiology at C.S.M.S.S Dental college Aurangabad, after the approval from the ethical committee of the institution and informed consent from the study subjects. Total 60 subjects were included in the study. Two groups were made Group A and Group B, in group A 30 healthy subjects were included and in Group B 30 histopathologically proven oral lichen planus patients were included.

Hospital Anxiety and Depression Scale (HADS)

Tick the box beside the reply that is closest to how you have been feeling in the past week.
Don't take too long over you replies: your immediate is best.

| D | A | | D | A | |
|---|---|--|---|---|---|
| | | I feel tense or 'wound up': | | | I feel as if I am slowed down: |
| 3 | | Most of the time | 3 | | Nearly all the time |
| 2 | | A lot of the time | 2 | | Very often |
| 1 | | From time to time, occasionally | 1 | | Sometimes |
| 0 | | Not at all | 0 | | Not at all |
| | | I still enjoy the things I used to enjoy: | | | I get a sort of frightened feeling like 'butterflies' in the stomach: |
| 0 | | Definitely as much | 0 | | Not at all |
| 1 | | Not quite so much | 1 | | Occasionally |
| 2 | | Only a little | 2 | | Quite Often |
| 3 | | Hardly at all | 3 | | Very Often |
| | | I get a sort of frightened feeling as if something awful is about to happen: | | | I have lost interest in my appearance: |
| 3 | | Very definitely and quite badly | 3 | | Definitely |
| 2 | | Yes, but not too badly | 2 | | I don't take as much care as I should |
| 1 | | A little, but it doesn't worry me | 1 | | I may not take quite as much care |
| 0 | | Not at all | 0 | | I take just as much care as ever |
| | | I can laugh and see the funny side of things: | | | I feel restless as I have to be on the move: |
| 0 | | As much as I always could | 3 | | Very much indeed |
| 1 | | Not quite so much now | 2 | | Quite a lot |
| 2 | | Definitely not so much now | 1 | | Not very much |
| 3 | | Not at all | 0 | | Not at all |
| | | Worrying thoughts go through my mind: | | | I look forward with enjoyment to things: |
| 3 | | A great deal of the time | 0 | | As much as I ever did |
| 2 | | A lot of the time | 1 | | Rather less than I used to |
| 1 | | From time to time, but not too often | 2 | | Definitely less than I used to |
| 0 | | Only occasionally | 3 | | Hardly at all |
| | | I feel cheerful: | | | I get sudden feelings of panic: |
| 3 | | Not at all | 3 | | Very often indeed |
| 2 | | Not often | 2 | | Quite often |
| 1 | | Sometimes | 1 | | Not very often |
| 0 | | Most of the time | 0 | | Not at all |
| | | I can sit at ease and feel relaxed: | | | I can enjoy a good book or radio or TV program: |
| 0 | | Definitely | 0 | | Often |
| 1 | | Usually | 1 | | Sometimes |
| 2 | | Not Often | 2 | | Not often |
| 3 | | Not at all | 3 | | Very seldom |

Please check you have answered all the questions

Scoring:

Total score: Depression (D) _____ Anxiety (A) _____

0-7 = Normal

8-10 = Borderline abnormal (borderline case)

11-21 = Abnormal (case)

Hospital anxiety and depression scale was used to evaluate the level of anxiety and depression in all the study participants. Permission from the hospital ethics committee and informed written consent were obtained from all the subjects. Standardized questionnaire was used for psychometric evaluation of the subjects in both the groups. i.e Hospital Anxiety and Depression Scale (HADS) was administered to the patients in their own native language during their first visit to the dental Out Patient Department (OPD). The HADS developed by Zigmond and Snaith and is generally well accepted by patients and non-patients alike with a 95-100 percent acceptance rate. The internal consistencies of the scale vary from 0.80-0.93 for anxiety and 0.81 - 0.90 for depression subscales, with a high retest reliability and validity of 0.80 and 0.90 respectively (Herrman *et al.*, 1995; Moorey, 1991) Unpaired 't' test was used.

RESULTS

Mean age of healthy subjects included in the study was 45 years and that of oral lichen planus patients was 44.7 years. among the subjects included in Group A there were 21 males and 9 females while in group B there were 18 males and 12 females. It shows that occurrence of lichen planus has a significant rate in females. Among both the groups total number of males were 39 and females were 21 (table 1).The mean HAD score was highest in OLP patients and lowest in healthy subjects. A statistically significant difference was found in both the groups. Using unpaired t test mean Depression score in Group A was lowest and in group B was highest.(table 3) in which p value obtained was ,less than 0.001 i.e highly significant.

Table 1. Gender wise distribution of the study participants among both the groups

| Group | Group A | Count | Gender | | Total |
|-------|---------|----------------|--------|--------|--------|
| | | | Male | Female | |
| | | % within Group | 70.0% | 30.0% | 100.0% |
| | Group B | Count | 18 | 12 | 30 |
| | | % within Group | 60.0% | 40.0% | 100.0% |
| | Total | Count | 39 | 21 | 60 |
| | | % within Group | 65.0% | 35.0% | 100.0% |

Table 2. Comparison of age in terms of {Mean (SD)} among both the groups using unpaired t test

| Group | N | Mean | Std. Deviation | t value | P value |
|---------|----|-------|----------------|---------|---------|
| Group A | 30 | 45.00 | 6.65 | 0.080 | 0.937 |
| Group B | 30 | 44.70 | 9.77 | | |

Table 3. Comparison of D score in terms of {Mean (SD)} among both the groups using unpaired t test

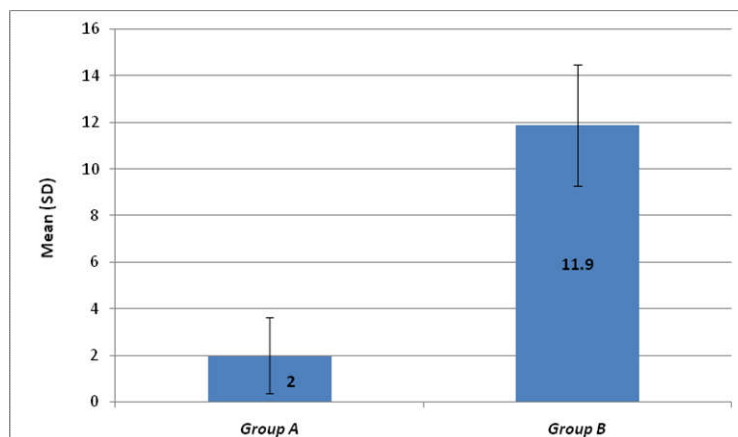
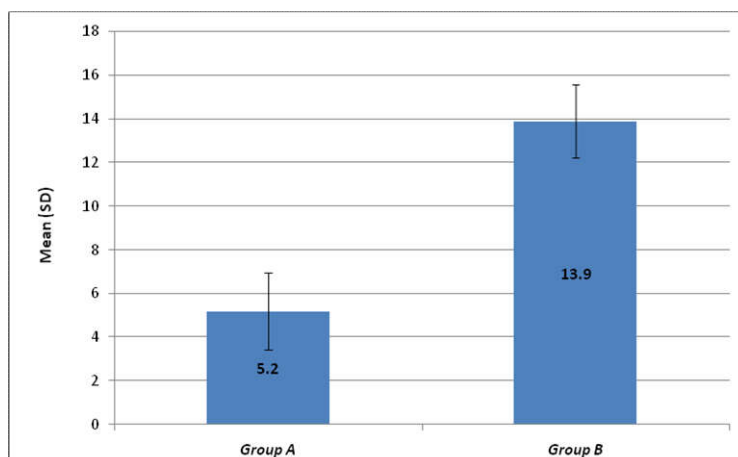
| Group | N | Mean | Std. Deviation | t value | P value |
|---------|----|-------|----------------|---------|----------|
| Group A | 30 | 2.00 | 1.63 | 10.193 | <0.001** |
| Group B | 30 | 11.90 | 2.60 | | |

(p < 0.05 - Significant*, p < 0.001 - Highly significant**)

Table 4: Comparison of A score in terms of {Mean (SD)} among both the groups using unpaired t test

| Group | N | Mean | Std. Deviation | t value | P value |
|---------|----|-------|----------------|---------|----------|
| Group A | 30 | 5.20 | 1.75 | 11.391 | <0.001** |
| Group B | 30 | 13.90 | 1.66 | | |

(p < 0.05 - Significant*, p < 0.001 - Highly significant**)

**Graph 1. Comparison of D score in terms of {Mean (SD)} among both the groups using unpaired t test****Graph 2. Comparison of A score in terms of {Mean (SD)} among both the groups using unpaired t test**

Mean anxiety score in group A was lowest and in group B was highest and p value obtained was less than 0.001 i.e highly significant (Table 4)

(Group A – Healthy Individuals)

(Group B – Histologically diagnosed lichen planus patients)

DISCUSSION

Lichen planus is a chronic inflammatory epidermal and mucosal disease, reportedly affecting 0.5 to 2.0% of the general population, with a mean age of onset in the fourth to fifth decade, with a higher mean age in males, which was in accordance with our study (Pati *et al.*, 2014) Rojo-Moreno *et al.* in a controlled study on 100 patients using different psychometric tests found greater anxiety and depression in OLP patients than the controls (Rojo-Moreno *et al.*, 1998). Chaudhary has reported higher scores of anxiety, depression and stress in patients with OLP in comparison to healthy controls (Chaudhary, 2004). Shetty *et al.* found elevated scores for anxiety, depression and stress in patients with OLP when compared to control group (Shetty *et al.*, 2010). Pati *et al.* found a higher mean score of somatic symptoms, anxiety, and depression in the erosive type of OLP when compared to other clinical types (Pati *et al.*, 2014). in the present study Hospital Anxiety and Depression scale was used for measuring anxiety and depression scores in subjects included in the study. The results using this questionnaire confirmed that psychosocial stressors like anxiety and depression levels are higher in oral lichen planus patients. A significantly higher levels of anxiety scores were obtained in oral lichen planus group compared to healthy individuals. Similarly significantly higher levels of depression scores were obtained in oral lichen planus group compared to healthy individuals. Hence higher levels of anxiety and depression in oral lichen planus group compared to healthy individuals suggests that these psychological factors play an important role in causation of OLP. It may be further hypothesized that these stressors form a starting point for the initiation of various autoimmune reactions, which have been shown to be contributory to the pathogenesis of OLP in literature. Further longitudinal studies need to be done.

Conclusion

The present study determines the correlation between psychosocial factors like anxiety and depression in the occurrence of oral lichen planus.

High level of anxiety and depression was found in OLP patients. Our findings reflect the psychological status of the patients with oral lichen planus.

Conflict of interest: No conflict of interest.

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