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Do we really not need to treat patients with white reticular lesions of oral lichen planus?: A case-control pilot study

Beyaz retiküler lezyonlu oral liken planus hastalarını gerçekten tedavi etmemeli miyiz?: Olgu kontrollü pilot çalışma

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Abstract

Background and Design: How oral lichen planus (OLP) affects oral health-related quality of life has been shown in previous studies but only symptomatic erosive and ulcerative OLP patients were included in such studies. The aim of this study was to determine if oral health-related quality of life is affected in patients with OLP, not only erosive but also reticular form of OLP.
Materials and Methods: Patients who were diagnosed with OLP in the dermatology outpatient clinic and age- and gender-matched healthy individuals were included in this study. Oral health-related quality of life was assessed by using the 14-item Oral Health Impact Profile (OHIP)-14 in all participants.
Results: Forty patients with OLP and 40 healthy subjects were included in this study. Mixed type lesions were present in 25% of patients while solely reticular lesions were present in 75%. OLP was painful and oral functions were affected in 50% of patients. There was a statistically significant difference in median OHIP-total score between patient and control groups. The median OHIP-14 total score in lichen planus patients and controls was 8.5 and 3. However, there was no significant difference between patients with solely reticular lesions and those with mixed type lesions.
Conclusion: In this study, we have shown that oral health-related quality of life was affected both in patients with only reticular lesions and in patients with mixed type lesions.
Keywords: Oral health, health quality, lichen planus, OHIP-14, oral lichen planus

Öz

Amaç: Literatürde oral liken planus (OLP) hastalarında ağız sağlığı ile ilişkili yaşam kalitesinin olumsuz yönde etkilendiği daha önce çeşitli çalışmalarda gösterilmiştir, ancak bu çalışmalara sadece semptomatik eroziv ve/veya ülseratif OLP'si olan hastalar dahil edilmiştir. Bu çalışmada eroziv lezyonları olan OLP hastalarının yanı sıra retiküler lezyonları da olan tüm OLP hastaları dahil edilerek yaşam kalitelerinin nasıl etkilendiği ve sağlıklı kişiler ile karşılaştırılması amaçlanmıştır.
Gereç ve Yöntem: Bu çalışmaya polikliniğe başvuran ve OLP tanısı konulan hastalar ile yaş ve cinsiyet olarak eşleştirilmiş sağlıklı kontroller alınmıştır. Tüm olguların yaşam kalitelerinin OLP lezyonlarından ne derecede etkilendiği ağız sağlığı ile ilişkili hayat kalite indekslerinden Ağız Sağlığı Etki Profili [OHIP (Oral Health Impact Profile)]-14 kullanılarak araştırılmıştır.
Bulgular: Çalışmaya OLP'si olan 40 hasta ve 40 sağlıklı kişi dahil edildi. Hastaların %75'inde sadece retiküler lezyonlar mevcutken %25'inde mikst tipte lezyonlar mevcuttu. OLP lezyonları hastaların yarısında ağrıya neden olmakta ve oral fonksiyonları etkilemekteydi. OLP hastalarında ortanca OHIP-14 total skoru 8,5 iken kontrol grubunda 3'tü ve her iki grup arasındaki fark istatistiksel olarak anlamlıydı. Sadece retiküler lezyonu olan hastalar ile mikst tipte lezyonu olan OLP hastalarının ise OHIP-14 skorları arasında anlamlı farklılık saptanmadı.

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Sonuç: Bu çalışmada OLP'li hastalarda hayat kalitesinin hem mikst hem de sadece retiküler lezyonları olan hastalarda da etkilenebildiği gösterilmiştir.
Anahtar Kelimeler: Ağız sağlığı, hayat kalitesi, liken planus, OHIP-14, oral liken planus

Introduction

Oral lichen planus (OLP) is the most common autoimmune disorder of the oral mucosa[1]. In a study performed in Turkey, it has been reported that the prevalence of biopsy-proven OLP, which affected both sexes equally, was 1.15%[2]. OLP may be seen in 30-70% of patients with cutaneous lichen planus; sometimes it may be the sole presentation of lichen planus[1,3]. Cutaneous involvement is detected in 19% of cases with a diagnosis of OLP[2]. OLP is often seen as asymptomatic white patches affecting the buccal mucosa, tongue or gingiva[1-3]. However, certain patients can present with erosive and/or ulcerative lesions that can be painful and symptomatic and these lesions make eating, speaking, swallowing and performing oral hygiene difficult[1,3].

Nowadays, health-related quality of life (HRQoL) indices play important roles in the treatment and follow-up of diseases and provide an objective scale for clinicians[4]. Diseases affecting oral mucosa are not fatal but they may cause severe morbidity. Recently performed studies showed that oral diseases result in physical, social and psychological consequences that have major impact on HRQoL of patients[4-6]. Various indices assessing oral HRQoL have been developed. The most widely used one is the 14-item Oral Health Impact Profile (OHIP)-14 which was developed by Slade[7]. The reliability and validity of this index were demonstrated in various studies[7]. Mumcu et al.[8] showed the validity and reliability of the Turkish version of the OHIP-14 in 94 patients with Behcet's disease and in 24 patients with recurrent aphthous stomatitis. They showed that presence of active oral ulceration made HRQoL worse[8]. Additionally, two recent studies performed in our country used OHIP-14 to assess HRQoL in patients with recurrent aphthous stomatitis and various tongue conditions[5,6]. How OLP affected oral HRQoL was shown in previous studies but only patients with symptomatic erosive and ulcerative OLP lesions were included in such studies[3,4].

The aim of this study was to determine whether oral HRQoL was affected in OLP patients with erosive and reticular lesions and to investigate the relationship of OHIP-14 scores with demographic and clinical characteristics of the patients.

Materials and Methods

OLP patients older than 18 years of age, who applied to the dermatology clinic and were treated on an outpatient basis, participated in this prospective observational study. The study protocol was approved by the local ethics committee (KOU KAEK 2015/305 project number, and 11/17 decision number). This study was performed in accordance with the ethical principles laid down in the Helsinki Declaration. The socio-demographic characteristics of patients and clinical findings were recorded. The patients were questioned concerning impairment of oral functions (eating, speaking, swallowing and oral hygiene) caused by OLP lesions. Sex- and age-matched (±5 years) healthy individuals took part in this study as control group. The oral HRQoL was assessed by the Turkish version of the OHIP-14 in all participants.

The OHIP-14 is a self-reported compact HRQoL questionnaire, which contains 14 questions concerning oral mucosal diseases. OHIP-14 scores range from 0 (no effect) to 56 (maximum effect)[7]. The OHIP-14 includes seven domains. The first and second questions comprise functional limitation, 3rd and 4th questions physical pain, 5th and 6th questions psychological discomfort, 7th and 8th questions physical disability, 9th and 10th questions psychological disability, 11th and 12th questions social disability, and 13th and 14th questions comprise handicap (Table 1)[7].

Statistical Analysis

Statistical analyses were performed by using MedCalc Statistical Software version 12.7.7 (MedCalc Software bvba, Ostend, Belgium; http://www.medcalc.org; 2013). Continuous variables were defined by descriptive statistics (mean, standard deviation, minimum, median, maximum). Student's t-test was used to analyze the difference between two groups that demonstrated compliance with normal distribution. The Mann-Whitney U test was used to compare differences between two groups that did not demonstrate compliance with normal distribution. Relationship between categorical variables was analyzed by using chi-square test or Fisher's exact test. A p value of less than 0.05 was considered statistically significant.

Results

Forty patients with OLP [18 (45%) female and 22 (55%) male] and 40 age- (±5 years) and sex-matched healthy controls were included in this study. The median age of patients and controls was 50 (23-74) years and 45 (18-72) years, respectively. The demographic characteristics of patients and controls were similar. The median age at OLP onset was 43.5 years (11-74 years) and the median duration of the disease was one year (1 month-49 years). There was no coexisting systemic medical illness in 45% (n=18) of patients and 62.5% (n=25) of patients were not using any systemic medication. Twenty-five (62.5%) patients did not have any habits, only 32.5% (n=13) of patients were active smokers. We detected that hepatitis B serology or hepatitis C serology was positive in only three (7.5%) patients.

Clinical findings in patients with OLP are summarized in Table 2. Mixed-type lesions (including erosive/ulcerative lesions in addition to reticular lesions) were present in 25% (n=10) of patients while only reticular lesions were present in 75% (n=30) of patients. The lesions were localized mostly to the buccal mucosa in 87.5% (n=35) of patients. Involvement of other body parts was detected in 52.5% (n=21) of patients. Other affected body parts were the genital area in 30% (n=12), extremities in 27.5% (n=11) and the trunk in 25% (n=10) of patients. OLP was painful in 50% of patients. Pain was mild and slightly disturbing in 30% (n=12) but it was severe and unbearable in 20% (n=8) of patients. Oral functions were affected in 50% of patients. Affected functions were eating in 35% (n=14), speaking in 20% (n=8), swallowing in 17.5% (n=7) and oral hygiene in 20% (n=8) of patients.

The median OHIP-14 total score in patient and control groups was 8.5 (0-36) and 3 (0-28), respectively and the difference was statistically significant (p=0.014). There was no statistically significant relationship of OHIP-14 total scores with age, sex, age at disease onset, disease

duration, presence of any medical illness, usage of any medicine, lesion type, presence of amalgam and involvement of other body parts (data not shown). The median OHIP-14 score in patients with only reticular lesions and in patients with mixed-type lesions was 8 (0-36) and 12 (0-31), respectively and the difference between these scores was not statistically significant. The presence of pain or impairment of oral functions caused a significant increase in OHIP-14 total scores in patients with all types of lesions (Table 2).

Subdimension analysis of OHIP-14 revealed that patients with OLP were significantly more affected in psychological discomfort (sum of 5th and 6th questions) (p=0.002), and handicap (sum of 13th and 14th questions) (p=0.002) areas compared with control group (Table 3). OHIP-14 subdimension analyses concerning functional limitation, physical pain, psychological discomfort, physical disability and social disability dimensions were found to be affected in the presence of different lesion types, amalgam, pain and impairment of oral functions (Table 4).

Table 1. Oral Health Impact Profile-14 Index used in the study

1	Have you had **trouble pronouncing any words** because of problems with your teeth, mouth or dentures?	Very often Fairly often Occasionally Hardly ever Never
2	Have you felt that your **sense of taste has worsened** because of problems with your teeth, mouth or dentures?	Very often Fairly often Occasionally Hardly ever Never
3	Have you had **painful aching** in your mouth?	Very often Fairly often Occasionally Hardly ever Never
4	Have you found it **uncomfortable to eat any foods** because of problems with your teeth, mouth or dentures?	Very often Fairly often Occasionally Hardly ever Never
5	Have you been **self-conscious** because of your teeth, mouth or dentures?	Very often Fairly often Occasionally Hardly ever Never
6	Have you **felt tense** because of problems with your teeth, mouth or dentures?	Very often Fairly often Occasionally Hardly ever Never
7	Has your **diet been unsatisfactory** because of problems with your teeth, mouth or dentures?	Very often Fairly often Occasionally Hardly ever Never
8	Have you had to **interrupt meals** because of problems with your teeth, mouth or dentures?	Very often Fairly often Occasionally Hardly ever Never
9	Have you found it **difficult to relax** because of problems with your teeth, mouth or dentures?	Very often Fairly often Occasionally Hardly ever Never
10	Have you been **a bit embarrassed** because of problems with your teeth, mouth or dentures?	Very often Fairly often Occasionally Hardly ever Never
11	Have you been **a bit irritable with other people** because of problems with your teeth, mouth or dentures?	Very often Fairly often Occasionally Hardly ever Never
12	Have you had **difficulty doing your usual jobs** because of problems with your teeth, mouth or dentures?	Very often Fairly often Occasionally Hardly ever Never
13	Have you felt that **life in general was less satisfying** because of problems with your teeth, mouth or dentures?	Very often Fairly often Occasionally Hardly ever Never
14	Have you been **totally unable to function** because of problems with your teeth, mouth or dentures?	Very often Fairly often Occasionally Hardly ever Never

Table 2. Demographic and clinical characteristics with median (min.-max.) Oral Health Impact Profile-14 scores of oral lichen planus patients

		n (%)	Median OHIP-14 (min.-max.)	p value
Gender	Female	18 (45)	8.5 (0-36)	0.545
	Male	22 (55)	9 (0-25)	
Lesion type	Reticular	30 (75)	8 (0-36)	0.294
	Mixed	10 (25)	12 (0-31)	
Amalgam filling	None	24 (60)	10.5 (0-36)	0.064
	Present	16 (40)	5.5 (0-20)	
Involvement	Only oral	19 (47.5)	10 (0-36)	0.378
	Oral+cutaneous	21 (52.5)	8 (0-31)	
Pain	Absent	20 (50)	5 (0-22)	**0.012**
	Present	20 (50)	11 (0-38)	
Prevention of oral functions	Absent	20 (50)	5 (0-16)	**<0.001**
	Present	20 (50)	13 (1-36)	

min.: Minimum, max.: Maximum

Discussion

HRQoL of patients with oral diseases is becoming more important as time goes by because nowadays clinicians have started to use oral HRQoL indices in all areas of medicine more commonly than in the previous years. In this context, in addition to lichen planus, other diseases causing lesions in the oral mucosa like Behcet's disease, recurrent aphthous stomatitis and tongue disorders have also been shown to affect HRQoL significantly[3-6,8,9].

In the literature, there have been a small number of reports evaluating the effects of OLP on HRQoL. Zou et al.[10] studied the oral HRQoL in 51 patients with OLP using the Chinese version of the OHIP-14 and found that the mean OHIP-14 total score was 21.67. However, they did not give any information about the type of the OLP lesions. In another study, it was observed that HRQoL in 74 patients with OLP was significantly reduced compared with that in 74 age- and gender-matched healthy controls, but again, no data was given about the type of the lesions[11]. In their study including 48 patients with erosive and/or ulcerative OLP, Hegarty et al.[4] evaluated validity and reliability of HRQoL indices in patients with lichen planus. The mean OHIP-14 score in patients with erosive and/or ulcerative OLP was found to be 7.06 and the range of OHIP-14 total scores was determined to be between 6.3 and 27.0[4]. OHIP-14 scores were found to correlate with the severity of pain felt by patients and 16-item UK Oral Health Related Quality of Life Measure scores (another oral HRQoL index) also correlated with the severity of pain[4]. As a result, it was pointed out that the impact of erosive OLP lesions on the HRQoL of patients was significant and most patients suffered from social and psychological consequences[4]. The OHIP-14 scores of patients with ulcerative OLP lesions were found to be higher and this result showed that the effect of ulcerative lesions on HRQoL of patients was greater in comparison with patients with asymptomatic lesions[4]. The results of the study performed by Hegarty et al.[4] demonstrate that OHIP-14 is both valid and reliable to be used in assessing patients with erosive and/or ulcerative OLP. In another study, the authors showed the sensitivity of OHIP-14 for the evaluation of clinical effects of topical corticosteroid treatment and they also observed decreased pain scores following topical corticosteroid treatment[12]. The same researchers found that OHIP-14 scores changed following topical corticosteroid therapy and the mean OHIP-14 score in patients with erosive and ulcerative lesions was 14.8 and 15.2, respectively[3]. The results of studies conducted by Hegarty et al.[3,4] have shown that erosive and/or ulcerative OLP affects HRQoL of patients to a great extent but these authors did not include OLP patients with white striae in their studies.[12] All patients with OLP who applied to the outpatient dermatology clinic were included in our study and these patients were assessed with regard to HRQoL by using OHIP-14 and the results were compared with those of healthy individuals. In our study, it was observed that OHIP-14 scores of 10 patients with erosions and ulcers in addition to white striae were higher than that of 30 patients with white stria only, but the difference was not statistically significant (Table 1). In this context, we observed that white striae, that are generally thought not to cause any discomfort to the patients and thought to not require any treatment and only need to be followed up by physicians[13], affected HRQoL of patients. Karbach et al.[14] did not find any significant difference in the OHIP-14 scores among patients with OLP, oral leukoplakia and oral squamous cell carcinoma. However, they demonstrated that patients with OLP

Table 3. Oral Health Impact Profile-14 results for patients with oral lichen planus and control group [median (min.-max.)]

	Oral lichen planus	Control	p value
OHIP-14	8.5 (0-36)	3 (0-28)	**0.014**
Functional limitation	0 (0-6)	0 (0-7)	0.979
Physical pain	2 (0-8)	2 (0-7)	0.576
Psychological discomfort	2 (0-7)	0 (0-7)	**0.002**
Physical disability	0 (0-6)	0 (0-6)	0.196
Psychological disability	1 (0-6)	0 (0-5)	0.087
Social disability	0 (0-6)	0 (0-4)	0.074
Handicap	0 (0-4)	0 (0-2)	**0.002**

OHIP: Oral Health Impact Profile, min.: Minimum, max.: Maximum

Table 4. Effects on Oral Health Impact Profile-14 dimensions with respect to clinical variables [median (min.-max.)]

		Functional limitation	Physical pain	Psychological discomfort	Physical disability	Social disability
Lesion type	Reticular	0 (0-4)	2 (0-6)	2 (0-7)	0 (0-6)	0 (0-6)
	Mixed	1.5 (0-6)	5 (0-8)	3 (0-7)	0 (0-5)	0 (0-5)
	p	0.164	**0.046**	0.677	0.702	0.874
Amalgam	Absent	0.5 (0-6)	3 (0-8)	2 (0-7)	0.5 (0-6)	1.5 (0-6)
	Present	0 (0-3)	1.5 (0-6)	2 (0-7)	0 (0-3)	0 (0-4)
	p	0.136	0.135	0.630	0.110	**0.027**
Pain	Absent	0 (0-4)	0.5 (0-6)	2 (0-7)	0 (0-5)	0 (0-4)
	Present	1.5 (0-6)	4 (0-8)	2 (0-7)	0 (0-6)	0.5 (0-6)
	p	**0.003**	**<0.001**	0.454	0.399	0.164
Functional limitation	Absent	0 (0-4)	1 (0-5)	1 (0-7)	0 (0-2)	0 (0-4)
	Present	1.5 (0-6)	4 (0-8)	3.5 (0-7)	1.5 (0-6)	1 (0-6)
	p	**0.003**	**<0.001**	**0.014**	**0.018**	0.105

min.: Minimum, max.: Maximum

had higher physical pain scores and lower social disability scores[14]. The subdimension analyses revealed that our OLP patients had significantly higher scores in psychological discomfort dimension and handicap dimension in comparison with controls. Karbach et al.[14] detected that women were affected more frequently, but we did not observe any effect of sex on OHIP-14 scores. Karbach et al.[14] grouped their cases as symptomatic and asymptomatic and showed that these groups were different with regard to physical pain and physical disability dimensions. Similarly, our cases were affected much more with regard to OHIP-14 dimensions concerning the presence of pain or limitation of oral functions.

It has been previously reported that psychological factors played a role in the development and progression of lichen planus and the patients with lichen planus were more stressful, anxious and prone to depression[15]. Similar to previously published studies, we observed that our lichen planus patients were more affected regarding OHIP-14 sub-dimensions of psychological discomfort and handicap in comparison with the control group.

Study Limitations

Limitations of our study may be the small number of participants and use of only one HRQoL index. Another limitation may be the fact that the change in HRQoL following clinical response to treatment was not determined in our study.

Conclusion

In this study, we included all OLP patients (patients with erosive lesions with or without reticular lesions and patients with only reticular lesions), evaluated oral HRQoL by using OHIP-14 and compared our results with those obtained from healthy controls. We have shown that reticular OLP and mixed type OLP affect HRQoL similarly. HRQoL is affected the most in the presence of pain or impairment of oral functions regardless of the clinical type of OLP present in the patient. As a result, we assume that reticular OLP lesions that are usually not treated or neglected may require active treatment because these lesions are also shown to affect oral HRQoL markedly.

Ethics

Ethics Committee Approval: Kocaeli University (KOU) KAEK 2015/305 project number and 11/17 decision number. **Informed Consent:** The study participants gave informed consent. Peer-review: Externally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: B.A., F.A.H., Concept: B.A., F.A.H., Design: B.A., F.A.H., Data Collection or Processing: B.A., F.A.H., Analysis or Interpretation: B.A., Literature Search: B.A., Writing: B.A., F.A.H.

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