Gastroenterology and Hepatology From Bed to Bench
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ORIGINAL ARTICLE

Association of oral manifestations with ulcerative colitis

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ABSTRACT

Aim: The study aims to document the oral lesions in patients with UC.

Background: Inflammatory bowel disease (IBD) is comprised of two chronic, tissue-destructive and clinical entities including Crohn's disease (CD) and ulcerative colitis (UC), both of which are immunologically based.

Patients and methods: The population of the study includes fifty patients with UC, as the experimental group, and fifty patients without gastrointestinal disease as the control group. All patients had an oral examination and completed the relevant questionnaire.

Results: There was a significant statistical relationship among tongue coating (<0.0001), halitosis (<0.0001), and oral ulceration (0.001) in patients suffering from severe UC compared to the control group. Also there was a higher prevalence of oral manifestations in patients with moderate UC compared to that of control group; but taste change (0.001) was the only significant factor. Acidic taste and taste change were among the symptoms more commonly found in patients suffering from pancolitis (40% each).

Conclusion: The results of the present study show that patients with UC had more oral signs and symptoms than the patients in the normal group. Further researches on oral lesions in UC are also recommended so that these diseases can be better understood.

Keywords: Oral manifestation, Ulcerative colitis, GI disease.

(Please cite as: **Elahi M, Telkabadi M, Samadi V, Vakili H. Association of oral manifestations with ulcerative colitis. Gastroenterol Hepatol Bed Bench 2012;5:155-160).**

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Introduction

Inflammatory bowel disease (IBD) is comprised of two chronic, tissue-destructive and clinical entities including Crohn's disease (CD) and ulcerative colitis (UC), both of which are immunologically based (1). Bowel symptoms are predominant; but extra-intestinal complications, including involvement of the oral cavity, may also occur. Oral involvement during IBD includes several types of lesions: the most common one is aphthous ulceration. Uncommon lesions may also include pyostomatitis vegetans and granulomatous lesions of CD. Starting with explanation of oral manifestations of six patients, which was crucial for the final diagnosis of IBD, a review on the subject is presented. Oral involvement in IBD may occur prior to or concurrent with the gastrointestinal symptoms. However, in majority of the cases, bowel disease precedes the onset of oral lesions by months or years. In many patients, the intestinal symptoms may be minimal and can go undetected; thus, most authors believe

Received: 27 March 2012 *Accepted*: 6 June 2012

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that the bowel must be thoroughly examined in all patients with suspected IBD, even in the absence of specific symptoms. Usually, the clinical course of oral lesions is parallel to the IBD activity; therefore, oral manifestations are good cutaneous markers of IBD (1). Many of the abnormalities described are relatively non-specific and may be associated with other conditions [(2)]. Some authors have cited diffuse or nodular swellings of the oral and perioral tissues as the most prominent features (2). Oral lesions found in patients with ulcerative colitis (UC) may include mucosal ulcers (3), pyostomatitis vegetans (4-8), diffuse pustules (9) and lichen planus (4,10). In addition, some medications used for the treatment of GI diseases may bring oral side effects (11, 12).

However, dentists and gastroenterologists may not always be aware of the possible association between GI diseases and certain oral pathologies, thus this association is often unrecognized. (13)

The study aimed to determine the nature and prevalence of oral signs and symptoms and related manifestations in patients with IBD compared with controls, and to determine whether the presence of these manifestations is correlated with disease progression, other extra-intestinal manifestations, and the location of bowel involved

Patients and Methods

The study was conducted in Golestan hospital, Tehran, Iran. The study was permitted by the local Institutional Review Board and all patients and controls submitted informed consent forms to participate in this study. Fifty UC patients participated in the study. The control group consisted of fifty patients who were matched with UC patients in terms of age and sex, and had no GI or other systemic diseases. Like UC patients, they were also examined for post-traumatic injuries (mostly radiographs) in an orthopedic clinic for a year.

Control patients on medications were withdrawn from the study, the inclusion criteria for the control group was drug avoidance for at least 4 months. This eliminated potential adverse GI effects, secondary to medication. Each patient and control subject filled out a questionnaire which included demographics, medical history and medications used. The symptoms which were examined in the study included dysphagia, halitosis, dry mouth, taste change and acidic taste. At the same time all patients and controls underwent one oral examination for the presence of oral signs, such as geographic tongue, aphthoid ulcerations, tongue coating and fissure tongues. A single examiner (A.S.) performed all oral evaluations. The extent of bowel disease for each patient was determined according to previous endoscopic and radiographic examinations of the GI tract. Briefly, this index is based on various clinical signs and symptoms, hematocrit, ESR, fever, frequency stools/day and pulse rate, all occurring during the week prior to the examination. Colitis activity was calculated according to Truelove and Wites index, the same day the patients took the oral examination.

The patients were divided into three groups: 0–0.33, 0.34–0.66 and 0.67–1 for low, moderate and high activity index, respectively (14).

Statistical analysis of chi-square tests was used for all correlations. The following comparisons were made:

(1) Between patients with ulcerative colitis and controls;

(2) Between patients with ulcerative colitis and controls, in terms of the disease severity

(3) Between patients with ulcerative colitis and controls in terms of the site involved: proctatic , left side and pan colitis.

In all tests, a p-value <0.05 was considered statistically significant. Chi-square test was used to detect a possible correlation between the number of oral and related manifestations among patients with UC.

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Results

Fifty patients with UC were studied. Fifty patients served as controls. Demographics are presented in table 1.

Table1. Demographics and clinical characteristics

	Ulcerative Colitis (n=50)	Control (n=50)
Age (years)		
Mean ± SD*	38±16	40±20
Range	-	18-79
Males: Females	28:22	26:24
Bowel involved		
Proctitis	15	
Left side colon	20	
Pancolitis	15	
Activity Index		
Mild	20	
Moderate	17	
Severe	13	

* SD: Standard deviation

Prevalence of manifestations

Pathologic findings are presented in table 2. Oral and related manifestations were more common in patients with UC than in controls, but statistical significance between UC group and controls was reached with regard to taste change and halitosis only. A statistical trend was indicated for dry mouth, oral ulceration, tongue coating and acidic taste.

Table 2. Oral pathology in patients and controls

Oral Signs	Ulcerative Colitis (%)	Control (%)	P-Value
Oral ulceration	20	4	0.028
Tongue coating	14	0	0.012
Geographic tongue	2	0	NS*
Fissured tongue	2	0	NS*
Oral symptoms			
Dry mouth	30	10	0.023
Halitosis	34	6	0.001
Dysphagia	0	0	NS
Acidic taste	20	2	0.008
Taste changes	20	0	0.001

* NS: Non significant

Disease severity index

Oral and related manifestations in patients with mild, moderate and severe index of UC and in controls are presented in figure 1. Higher statistical significance was detected with oral ulceration (0.001), tongue coating (<0.0001) and halitosis (<0.0001) between severe UC patients compared with the patients in the control group.

Although most oral and related manifestations were more common in patients with severe UC than the ones with mild UC (Figure1), no statistical significance was detected.

A trend toward a higher prevalence of oral and related manifestations was found in patients with moderate UC compared with patients in the control group, but it reached statistical significance with the taste change only (p=0.001).

Site of bowel involvement

Among the patients with proctitis and left side colitis, no difference was found in terms of the prevalence of oral and related manifestations according to the site of bowel involved. However, acidic taste and taste change were more commonly found in patients with pancolitis compared with controls (40% and 40% vs. 0 respectively; Figure2).

Discussion

The present study examined oral signs and symptoms of UC patients and their relevance to disease severity and site of involvement. The questionnaire filled by the patients presented data regarding symptoms such as dysphasia, halitosis, dry mouth, acidic taste and taste change. The clinical examination of the patients yields the information regarding oral signs such as geographic tongue, oral ulcerations, tongue coating, and fissure tongue. Since the results of this study have been achieved based on a small number of patients, they should be cautiously interpreted, especially when referring to UC disease subgroups.

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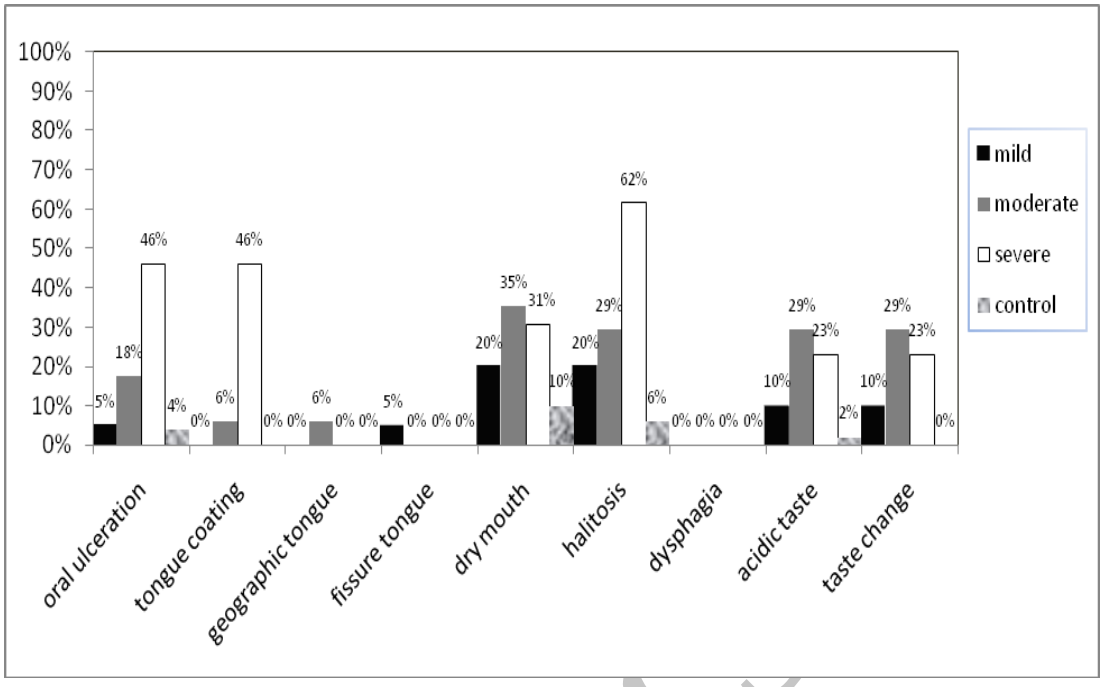

Figure1. Prevalence of oral manifestations according to disease severity in patients with ulcerative colitis

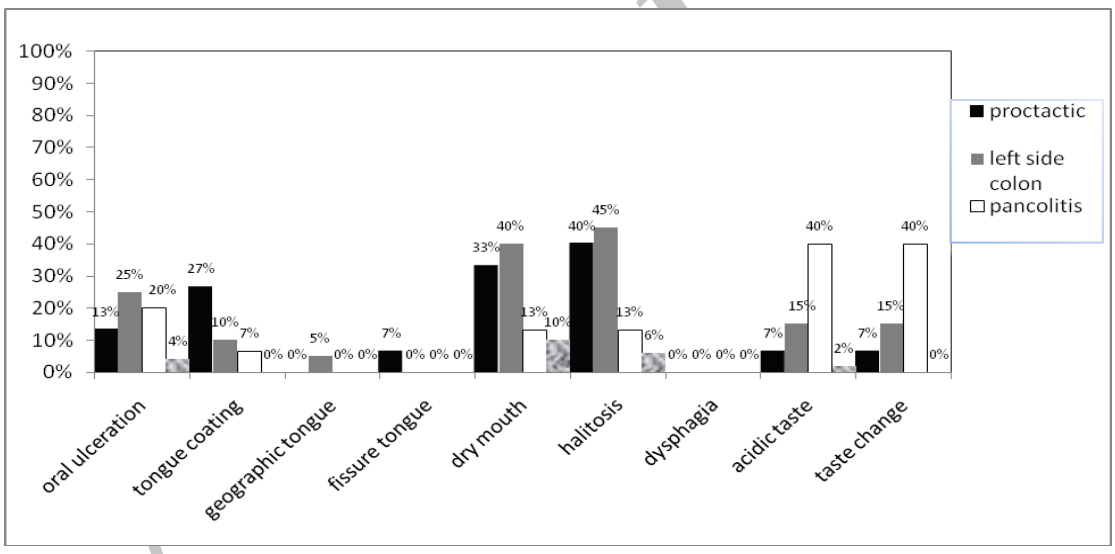

Figure 2. Prevalence of oral manifestations according to site of bowel involvement in patients with ulcerative colitis disease

The main findings of this study show that there is a higher prevalence of oral ulceration, tongue coating, halitosis, acidic taste, taste change and dry mouth in patients with UC than controls. Patients with severe index of UC had a higher prevalence of halitosis, tongue coating and oral ulceration compared with controls.

In this study, no objective test was performed in patients; however such a symptom may suggest decreased salivary flow. This may be associated with increased risk of dental erosions and caries, discomfort with dentures, and soft tissue abrasion and infections (11, 15).

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Some medications used for the treatment of IBD may bring oral side-effects. Budesonide may reduce salivation (12) and sulfasalazine may be associated with reversible lichen's planus (4). Other immunosuppressive drugs such as azathioprine and various glucocorticoids used by patients with active disease may actually be responsible for the different frequencies of oral signs and symptoms of IBD patients (16). In the present study, oral and related manifestations were more common in patients with UC than in controls. The majority of patients in the control group demonstrated no statistical significance. It may be attributed to the small numbers. Previous studies demonstrated an increased prevalence of various oral symptoms in patients with IBD (3-8, 17, 19).

The information regarding oral involvement in UC is sparse and is based mainly on several case reports (13).

The presence of oral symptoms or lesions such as aphthoid ulcerations should alert the clinician to the possibility of IBD even in the absence of GI manifestations (20-23).

The results of the present study show that patients with UC had more oral signs and symptoms compared with the normal group; therefore, an evaluation by an oral physician may be useful during the investigation of patients with suspected UC disease. Further study about oral lesions in UC is also recommended so that these diseases can be better understood.

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