



ASSOCIATION OF ORAL MANIFESTATION WITH ULCERATIVE COLITIS: A CASE CONTROL STUDY FROM A COHORT OF NORTH WESTERN PART OF INDIA

Gastroenterology

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ABSTRACT

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. Ulcerative colitis (UC) is a chronic tissue destructive inflammatory bowel disease (IBD) of autoimmune origin characterized by predominant bowel symptoms such as abdominal pain, diarrhea and relapsing and remitting rectal bleeding, leading to loss of weight. Extraintestinal manifestations, including involvement of the oral cavity, may also occur. Oral involvement during IBD includes aphthous ulcers, pyostomatitis vegetans (PV) and lichen planus (LP).

Objectives: The purpose of this study was to document the oral manifestations in a cohort of UC patients from north western part of India.

Method: The study included 40 patients with UC, and 40 patients with equal age- and sex-matched healthy and without gastrointestinal disease as the control group. All patients had an oral examination and the same patients were also asked a series of questions in the form of questionnaire.

Results: PV, minor aphthous ulcer, LP, halitosis, dysgeusia, dry mouth, tongue coating, gingivitis and periodontitis were documented as oral manifestations in UC.

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

KEYWORDS

INTRODUCTION

Inflammatory bowel disease (IBD) is a group of inflammatory conditions of the colon and small intestine, which principally includes Crohn's disease and ulcerative colitis (UC). In genetically susceptible individuals, an inappropriate and continued inflammatory response by the complex interaction of environmental, genetic and immunoregulatory factors to gut microbiota is thought to result in UC. The current and more accepted theory is that intestinal inflammation is a consequence of an abnormal action of T-lymphocytes on enteric bacterial flora in genetically susceptible individual. This chronic inflammation of the colonic mucosa causes ulceration, edema, bleeding, diarrhea and fluid and electrolyte loss (1). Incidence and prevalence rate of UC in India are reported to be 6.02/10⁵ per year and 44.3/10⁵ population, respectively (2).

UC exhibits intestinal and extraintestinal complications. Intestinal complications are ischiorectal abscess, rectal prolapse, hemorrhoids, fibrous stricture, pseudopolyposis, perforation, massive hemorrhage and also carcinoma of colon. Extraintestinal complications are common in UC. These include erythema nodosum, pyoderma gangrenosum, skin eruptions, uveitis, arthritis, transient hepatitis and venous thrombosis (1).

Extra intestinal complications associated with oral cavity occur commonly with UC. The oral lesions commonly occurring with UC are aphthous ulcers, pyostomatitis vagitans, halitosis, dysgeusia, dry mouth, coated tongue, gingivitis and periodontitis at multiple oral sites. Pyostomatitis vegetans (PV) is considered as a specific oral indicator of UC, and other manifestations such as aphthous ulcers, Lichen planus, halitosis, dysgeusia, dry mouth, coated tongue, gingivitis and periodontitis are considered as nonspecific oral manifestation (3-6). The oral lesions may occur or precedes concomitantly with systemic disease and has been found that the oral lesions tend to regress when the intestinal disturbance is brought under control. However, exacerbations of the gastrointestinal disease frequently result in exacerbation of oral lesion.

The aim of our study was to evaluate the prevalence of the different oral manifestations in UC patients, in comparison with a control group of healthy subjects in north western part of India.

MATERIAL AND METHODS

The study was conducted in gastroenterology department, PBM

Hospital, Bikaner, Rajasthan. A total of 40 patients, 22 males and 18 females with a diagnosis of UC were enrolled in this study. The study included the selection of a control group of 40 healthy subjects of same age and sex matched group.

A detailed case history format was prepared. A thorough intra oral examination was done by single examiner. Patients and controls were evaluated for PV, aphthous ulcer, lichen planus, tongue coating, halitosis, dysgeusia, dry mouth, gingivitis and periodontitis. Halitosis and dysgeusia were evaluated by series of questions, dry mouth by estimation of salivary flow rate. Periodontal status was assessed by gingival and periodontal index.

Data analysis: Data thus collected were entered into excel and were then analyzed with help of SPSS software through tables, diagrams and appropriate statistical test wherever required.

RESULTS

Forty patients with UC were studied. Forty patients served as controls. Oral manifestations were more common in patients with UC than in controls. Out of 40 patients, 24 patients reported aphthous ulcers, Four patients had PV, OLP was seen in four patients, 25 patients reported halitosis and 30 had dry mouth. Dysgeusia was present in 15 patients. Tongue coating was observed in 12 patients and 20 patients had periodontitis. The findings of oral manifestations of UC patients with comparison to controls are presented in table 1.

Oral Manifestation	UC Group	Control Group	P-value
Aphthous ulcer	24	03	<.05 – S
Pyostomatitis vegetans	04	00	<.05 – S
Oral Lichen planus	04	00	<.05 – S
Halitosis	25	12	<.05 – S
Dry Mouth	30	08	<.05 – S
Dysgeusia	15	01	<.05 – S
Tongue coating	12	01	<.05 – S
Periodontitis	20	12	>.05 – NS

S – Significant, NS – Not significant, Significance level = .05

DISCUSSION AND CONCLUSION

Ulcerative colitis and Crohn's disease are two disorders known as inflammatory bowel disease (IBD). These two diseases share common features but have distinctly different clinical manifestations (1rare). The origin of IBD is multifactorial but the cause remains unresolved. It

is postulated that they result from unregulated and exaggerated immune responses to commensal microbes in the gut in genetically susceptible individuals (7, 8).

The genetic susceptibility plays an important role and the implicated genes regulate several important biological functions, including immunoregulation, mucosal barrier integrity and microbial clearance and/or haemostasis. gene associated with UC MDR1 located on chromosome 7 physiologically protects cells from toxic substances or metabolites. Some genotypes of UC, HLADRB1*0103, B*27 and B*58 are linked with extraintestinal manifestations (9).

Our study indicated that oral manifestations are very common in UC patients. Oral ulceration, halitosis, altered taste and dry mouth were frequently prevalent oral manifestations in patients with UC.

In our study 4 patients had PV. Three of them had PV on lower labial mucosa and one had it on left buccal mucosa. Three of them were male and one was female. There is a strong association between PV and IBD, and the former is a specific marker of disease activity in UC (10-13). Pyostomatitis vegetans is characterized by areas of edematous and inflamed oral mucosa with numerous small, yellow pustules. Adjacent pustules coalesce to form larger "snail-track ulcers". The lesions usually involve the gingiva, buccal mucosa, palate and ventral tongue. The tonsillar and labial mucosa may also be involved. Pain is a frequent complaint in patients with pyostomatitis vegetans. About 90% of patients with this condition present with peripheral eosinophilia (14-16). Topical treatment with corticosteroids is usually ineffective in treating pyostomatitis vegetans. Systemic corticosteroids, azathioprine, dapsone, or sulfamethoxypridazine can usually control the disease process (14).

Oral Lichen planus was seen in four patients. This could be associated with sulfasalazine therapy (17). Some authors indicated that OLP is a drug complication and discontinuation of sulfasalazine resolved the condition, whereas others contraindicated and reported that discontinuation did not resolve but instead became more extensive (18).

In our study 24 patients presented recurrent aphthous ulcer. Results are in accordance with study done by Elahi et al (19). Aphthous ulceration in UC is due to micronutrient malabsorption of iron-inducing iron deficiency anemia and Vitamin B₁₂ in pernicious anemia.

Halitosis was reported in 25 patients and dry mouth was present in 30 patients. These results were in accordance with other studies (19, 20). Dry mouth is thought to be due to long term steroid therapy and sulfasalazine therapy that decrease the acinar cell secretion. Halitosis can be due to an increased amount of colonic sulfate-reducing bacteria in UC patients, resulting in higher concentrations of the toxic gas hydrogen sulfide.

Periodontitis was seen in 20 patients of UC and 12 control patients were also suffering from periodontitis which demonstrated no statistical significance. however regular oral check-up for periodontal status is necessary for patients with ulcerative colitis.

Dysguesia was reported by 15 UC patients, which was similar to the results of other studies. It is considered to be due to sulfasalazine's metabolite sulfapyridine. Serum sulfapyridine levels >50 µg/mL are associated with dysguesia (21).

Tongue coating was present in 12 patients which could be due to long term steroid therapy or negligence of oral hygiene. So this study confirms that oral manifestations are common in celiac disease.

The clinical oral examination should be considered a diagnostic tool for the characterization of subjects affected by silent-atypical forms of UC. Therefore, an evaluation by a clinician 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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