

Original Research

Oral manifestations of Idiopathic Intestinal Crohn's disease in a tertiary care hospital in north western part of India: A prospective observational study

Sushil Falodia¹, Arjun Vyas²

¹Associate Professor, Department of Gastroenterology, Sardar Patel Medical College, Bikaner, Rajasthan, India;

²Senior demonstrator, Department of Pharmacology, Sardar Patel Medical College, Bikaner, Rajasthan, India.

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. Crohn's disease is an inflammatory bowel disease characterized by granulomatous inflammation, which may affect any site along the gastrointestinal tract from the mouth to the anus. Recent studies suggest that the mouth may be involved frequently in patients with Crohn's disease (CD). **Aim:** The aim of this study was to document the various oral manifestations in patients with Crohn's disease in a tertiary care hospital in north western part of India. **Methods:** The study included 70 patients with Crohn's disease. All patients had an oral examination and data was collected in prescribed proforma. **Results:** Various oral lesions related to Crohn's disease like mucogingivitis, mucosal tags, cobblestoning, deep linear ulcerations, lip swelling were documented in CD patients. **Conclusion:** The frequency of oral lesions associated with Idiopathic Intestinal Crohn's disease was higher in north western part of India. Systematic oral examination may be valuable in the initial diagnostic evaluation of patients with suspected CD.

Key words: Crohn's disease, oral manifestations

Received: 30 April, 2018

Revised: 28 September, 2019

Accepted: 19 October, 2019

Corresponding Author: Dr. Arjun Vyas, Department of Pharmacology, Sardar Patel Medical College, Bikaner, Rajasthan, India.

This article may be cited as: Falodia S, Vyas A. Oral manifestations of Idiopathic Intestinal Crohn's disease in a tertiary care hospital in north western part of India: A prospective observational study. J Adv Med Dent Scie Res 2019;7(10): 91-93.

INTRODUCTION

Crohn's disease (CD) is an immune-mediated disorder of the gastrointestinal (GI) tract which, along with ulcerative colitis, comprises the two major subsets of the inflammatory bowel disease (IBD). The underlying etiology is poorly understood but likely involves defects in mucosal immunity and intestinal epithelial barrier function in a genetically susceptible individual, leading to an inappropriate inflammatory response to intestinal microbes [1-3]. Crohn's disease is an inflammatory bowel disease characterized by granulomatous inflammation, which may affect any site along the gastrointestinal tract from the mouth to the anus [4-5]. Oral lesions are well described, with prevalence rates estimated between 0.5% and 20% [4-5]. A higher incidence of oral lesions has been reported in patients with Crohn's disease than in those with ulcerative colitis and in normal controls [6].

Patients with CD often suffer from aphthous ulceration of the oral cavity. However, because these ulcers also

occur commonly in patients with ulcerative colitis and in the general population, they are not specific for CD [7]. Therefore the clinical and diagnostic relevance of simple aphthous oral ulceration in patients with suspected CD is uncertain. Conversely, a number of other oral manifestations, though less common, are considered disease-specific in patients with CD [6,8-10]. A wide variety of disease-specific oral lesions has been described in patients with intestinal CD. These include swelling of the lips, buccal mucosal swelling or cobblestoning, mucogingivitis, deep linear ulceration (usually in the buccal sulci), and mucosal tags. [6, 8-16] Increased prevalence rates of caries have been reported in patients with CD. In addition, pyostomatitis vegetans, a lesion characterized by soft hyperplastic folds of the mucosa with multiple pustules, typically associated with UC [17], also has been described in CD [18]. Extraintestinal sites such as the skin, joints, and eyes may be affected as well. The most common presenting symptoms are periumbilical abdominal pain

and diarrhoea associated with recalcitrant fevers, malaise, fatigue, and anorexia [1, 9, 17].

The aim of our study was to evaluate the prevalence of the different oral manifestations in Crohn's disease 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 70 patients, 42 females and 28 males with a diagnosis of Crohn's were enrolled in this study.

A detailed case history format was prepared. Dental examinations were performed in a dental chair with the use of standard lighting. Systematic assessment of the submandibular lymph nodes, lips, labial mucosa and sulci, commissures, buccal mucosa and sulci, gingiva, tongue, floor of mouth, and hard and soft palate were performed and findings were recorded. Patients were evaluated for various intra oral lesions.

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:

Seventy patients with Crohn's disease were studied. The lesions identified covered the whole spectrum of CD-specific oral manifestations. Out of 70 patients, 33 patients had oral lesions. The most frequent findings were those of mucosal tags (12 patients), followed by localized mucogingivitis (11 patients). Three of them had both localized mucogingivitis and mucosal tags.

Deep linear ulcerations were present in five patients, three patients had cobblestoning in buccal mucosa and labial swelling was also seen in two patients. Oral biopsy examinations were performed on 20 patients with CD patients who had oral manifestations. Noncaseating granulomas were found in biopsy material from all 20 patients undergoing oral biopsy examination.

DISCUSSION AND CONCLUSION

The present study was prospective observational study conducted for the duration of one year from January 2018 to December 2018 to analyze the association of oral manifestations in idiopathic intestinal crohn's disease patients at PBM and associated group of hospital with Sardar Patel Medical College, a tertiary care teaching institute in Bikaner, Rajasthan.

CD is a multisystem, inflammatory disorder with a complex etiologic basis that is believed to involve an interplay of genetic, immunologic, and environmental factors [1]. It has been postulated that changes in the immune system and exposure to environmental risk factors are necessary triggers of disease [1]. The increasingly accepted theory is that CD is the result of an inappropriate mucosal inflammatory response to intestinal bacteria in a genetically predisposed host [2, 3].

Our study indicated that oral manifestations are very common in CD patients. This is almost similar to the study conducted by Harty et al [11], Pittock et al [12] and Plauth et al[15]. In the contrary study done by M K Basu et al [6]. shows relatively lower frequency of oral lesions in CD patients. Examination of oral cavity of CD by experienced dentist was perhaps the main factor of higher frequency of oral manifestations.

Table 1 shows spectrum of oral manifestations associated with Crohn's disease.

S.No.	Oral Manifestation	Males (n)	Females (n)	Total (n)
1	Mucosal Tags	04	08	12
2.	Localized mucogingivitis	05	06	11
3.	Deep linear ulcerations	01	04	05
4.	Cobblestoning	01	02	03
5.	Labial swelling	00	02	02

Females 42 (60%) were more affected by CD as compared to male patients 28 (40%). The oral manifestations were more common in females (22) as compared to males (11).

Table 2 shows gender distribution of Crohn's disease patients and those who had encountered oral lesions.

	Male (n)	Female (n)
Patients with oral manifestations	11	22
Patients without oral manifestations	17	20
Total No. of CD patients	28	42

Age of the subjects who had Crohn's disease ranged from 12 years to 65 year. The mean age was 19.6 years with standard error of mean is 4.82.

The type of mouth lesions identified in the present study covered the spectrum of oral CD manifestations. In our study mucosal tags are most common oral findings which is similar to the study done by Harty et al [12]. The oral lesions macroscopically and histologically resembled those seen in the gastrointestinal tract in Crohn's disease suggesting that they were due to the same disease process. Oral manifestations of Crohn's disease are not uncommon — especially in pediatric populations — and may be the first signs of the disease [18]. Visible oral manifestations are similar to those found in the intestine, including cobblestone appearance of the mucosa, deep linear ulcerations, and mucosal tags. Oral manifestations may also include swelling of the lips, angular cheilitis, hyperplasia of erythematous gingival [19], and recurrent ulcerations [20-21]. The oral lesions may coincide, precede or follow the onset of intestinal symptoms.

So this study confirms that oral manifestations are common in Crohn's disease. The clinical oral examination should be considered a diagnostic tool for the characterization of subjects affected by silent-atypical forms of Crohn's disease. Therefore, an evaluation by a clinician may be useful during the investigation of patients with suspected Crohn's disease. Further study about oral lesions in Crohn's disease is also recommended so that these diseases can be better understood.

REFERENCES

1. J. W. Mays, M. Sarmadi, and N. M. Moutsopoulos, "Oral manifestations of systemic autoimmune and inflammatory diseases: diagnosis and clinical management," *The Journal of Evidence Based Dental Practice*, vol. 12, no. 3, supplement, pp. 265–282, 2012.
2. D. C. Baumgart and S. R. Carding, "Inflammatory bowel disease: cause and immunobiology," *The Lancet*, vol. 369, no. 9573, pp. 1627–1640, 2007.
3. C. Abraham and J. H. Cho, "Inflammatory bowel disease," *The New England Journal of Medicine*, vol. 361, no. 21, pp. 2066–2078, 2009.
4. Cosnes A, Dupuy A, Revuz J, Delchier JC, Contou JF, Gendre JP, et al. Longterm evolution of oral localisation of Crohn's disease [abstract]. *Gastroenterology* 1998;114:A956.
5. Hyams JS. Extraintestinal manifestations of inflammatory bowel disease in children. *J Pediatr Gastroenterol Nutr* 1994;19:7-21.
6. Basu M, Asquith P, Thompson RA, et al. Oral manifestations of Crohn's disease. *Gut* 1975;16:249–254.
7. Greenstein AJ, Janowitz HD, Sachar DB. The extra-intestinal complications of Crohn's disease and ulcerative colitis: a study of 700 patients. *Medicine (Baltimore)* 1976;55:401–412.
8. Halme L, Meurman JH, Laine P, von Smitten K, Syrjänen S, Lindqvist C, et al. Oral findings in patients with active or inactive Crohn's disease. *Oral Surg Oral Med Oral Pathol* 1993;76:175-81.
9. Boraz RA. Oral manifestations of Crohn disease: update of the literature and report of case. *J Dent Child* 1988;55:72-4.
10. Scully C, Cochran KM, Russell RI, Ferguson MM, Ghouri MAK, Lee FD, et al. Crohn's disease of the mouth: an indicator of intestinal involvement. *Gut* 1982;23:198-201.
11. Harty S, Fleming P, Rowland M, et al. A prospective study of the oral manifestations of Crohn's disease. *Clin Gastroenterol Hepatol.* (2005); 3:886 -891
12. Pittock S, Drumm B, Fleming, et al. The oral cavity in Crohn's disease. *J Pediatr.*(2001); 138:767–771
13. Field EA. Oral lesions in IBD. *Inflamm Bowel Dis Monitor.*(2001); 2:66–71
14. Stricker T, Braeggerr CP. Images in clinical medicine. Oral manifestations of Crohn's disease. *N Engl J Med.* (2000); 342:1644
15. Plauth M, Jense H, Meyle J. Oral manifestations of Crohn's disease. An analysis of 79 cases. *J Clin Gastroenterol.* (1991); 13:29–37.
16. Dupuy A, Cosnes J, Revuz J, et al. Oral Crohn disease: clinical characteristics and long-term follow-up of 9 cases. *Arch Dermatol.* (1999); 135:439–442.
17. Neville BW, Smith SE, Maize JC, et al. Pyostomatitis vegetans. *Am J Dermatopathol.* (1985); 7:69–77
18. Ficarra G, Cicchi P, Amorosi A, et al. Oral Crohn's disease and pyostomatitis vegetans. An unusual association. *Oral Surg Oral Med Oral Pathol.* (1993); 75:220–224
19. Boirivant M., Cossu A. Inflammatory bowel disease. *Oral Diseases.* 2012;18(1):1–15
20. Ham M, Longhi MS, Lahiff C, Cheifetz A, Robson S, Moss AC. Vitamin D levels in adults with Crohn's disease are responsive to disease activity and treatment. *Inflamm Bowel Dis.* 2014;20:856–860
21. Wilkins T, Jarvis K, Patel J. Diagnosis and management of Crohn's disease. *Am Fam Physician.* 2011;84:1365–1375.
22. Alawi F. An update on granulomatous diseases of the oral tissues. *Dent Clin North Am.* 2013; 57:657–671.
23. Katsanos KH, Torres J, Roda G, Brygo A, Delaporte E, Colombel JF. Review article: Non-malignant oral manifestations in inflammatory bowel diseases. *Aliment Pharmacol Ther.* 2015;42:40–60