



Oral Manifestations of Chronic Inflammatory Bowel Diseases: A Survey of IBD Patients in the Gastroenterology and Hepatology Department at IBN ROCHD University Hospital in Casablanca

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Abstract

Chronic inflammatory bowel diseases (IBD), encompassing Crohn's disease (CD) and ulcerative colitis (UC), are characterized by persistent gastrointestinal inflammation influenced by genetic, immunological, and environmental factors. These conditions frequently affect young adults and are often associated with oral manifestations that significantly impact patients' quality of life. This cross-sectional descriptive study investigates the prevalence and nature of oral manifestations in IBD patients treated at the Gastroenterology and Hepatology Department of IBN ROCHD University Hospital in Casablanca, emphasizing the importance of integrating oral health care into comprehensive IBD management. The study included 90 patients, of whom 52.2% were women and 54.4% were under 40 years old. CD was the predominant diagnosis (71%). A total of 73.3% of patients reported oral health issues since their IBD diagnosis, with inflammation (51.5%), ulcers (24.2%), and aphthous lesions (16.7%) being the most common complaints. Clinical examinations revealed poor oral hygiene in 62.2% of patients, and 64.6% reported dry mouth. Observed oral lesions included erythema (55.6%), hyperplasia (36.7%), candidiasis (32.2%), and ulcers (20%). Regarding treatments, 60% of patients were on immunosuppressants, 23.3% on salicylates, and 21.1% on corticosteroids. The findings align with prior epidemiological studies, confirming a slight female predominance

and a high prevalence in young adults. Oral complications such as ulcers, aphthous lesions, periodontal issues, and dry mouth are common and necessitate vigilant monitoring. A multidisciplinary approach, including collaboration between gastroenterologists and dental professionals, is essential for optimal patient care. This study underscores the critical need for regular oral health assessments and preventive interventions to mitigate oral complications and improve the overall quality of life for patients with IBD.

Subject Areas

Dentistry, Gastroenterology & Hepatology

Keywords

Chronic Inflammatory Bowel Disease, Oral Manifestations, Crohn's Disease, Ulcerative Colitis, Multidisciplinary Management

1. Introduction

Chronic inflammatory bowel diseases (IBD), comprising Crohn's disease (CD) and ulcerative colitis (UC), are a group of disorders characterized by persistent inflammation of the gastrointestinal tract. These conditions are multifactorial in nature, arising from complex interactions between genetic [1], immunological [2], and environmental factors [3]. Affecting both sexes and all age groups, IBD is most prevalent in young adults and impacts over 10 million people globally, with the highest prevalence in North America and Europe. Emerging trends indicate a notable rise in cases across Asia and Africa, driven by urbanization and dietary changes [4]-[6].

CD and UC differ in their clinical and anatomical characteristics. CD can affect any segment of the gastrointestinal tract, from the mouth to the anus, and is often associated with extra-intestinal manifestations such as arthritis [7], skin lesions [8], and ocular inflammation [9]. UC, in contrast, is confined to the colon and rectum, presenting primarily with continuous mucosal inflammation.

While IBD is incurable, its management focuses on achieving and maintaining remission, preventing complications, and improving patients' quality of life. Effective management requires a multidisciplinary approach involving gastroenterologists, immunologists, surgeons, and, increasingly, oral health professionals [10]. The management of IBD has evolved significantly with advancements in personalized medicine and the development of updated guidelines that prioritize tailored treatment strategies and multidisciplinary care [11]. Early use of biologics and immunosuppressants has proven effective in enhancing disease control and outcomes [12]. For patients with refractory cases or those who fail conventional treatments, innovative therapies such as small molecules or cell therapies are offering new hope [13]. Pharmacological advancements and dietary interventions, such as the Autoimmune Protocol (AIP), are alleviating symptoms and reducing medication reliance [14].

Additionally, chronic care models emphasize proactive management, reducing hospitalizations and costs [15]. However, while advancements in systemic therapies have significantly improved disease control and patient outcomes, the often-overlooked oral manifestations of IBD remain a critical component of comprehensive care, as they can serve as early indicators of disease activity and profoundly impact the quality of life [16].

These manifestations include mucosal lesions such as ulcers, aphthous lesions, and granulomatous gingivitis, which may precede gastrointestinal symptoms in some cases [17]. These oral complications may stem from the underlying disease, immunosuppressive treatments, or alterations in oral bacterial flora due to the disease [18]. Consequently, regular monitoring and proactive management of oral health issues are essential for comprehensive IBD care.

The objective of this study is to describe and analyze oral manifestations in IBD patients treated at the Gastroenterology and Hepatology Department of IBN ROCHD University Hospital in Casablanca. This investigation aims to enhance understanding of the prevalence and clinical characteristics of these manifestations and to underscore the importance of integrating oral healthcare into the overall management of IBD.

2. Materials and Methods

This study was designed as a cross-sectional, descriptive analysis aimed at investigating oral manifestations in patients with IBD treated at the Gastroenterology and Hepatology Department of IBN ROCHD University Hospital in Casablanca. The research was conducted over a period of two months, from December 5, 2019, to January 30, 2020. The study received approval from the Ethics Committee of IBN ROCHD University Hospital. Informed consent was obtained from all participants prior to their enrollment.

The target population comprised all patients diagnosed with CD or UC and actively followed in the department during the study period. Inclusion criteria required a confirmed diagnosis of CD or UC, verified through clinical, endoscopic, and histopathological evaluations as documented in patient medical records. Exclusion criteria were defined as any concurrent diagnoses unrelated to IBD.

The sample size of 90 patients was determined based on the total number of eligible patients attending the department during the two-month study period. This approach ensured that the study captured a representative cohort of IBD patients actively managed at the hospital, providing robust insights into the prevalence and characteristics of oral manifestations in this population.

Data were collected prospectively during routine consultations using a structured observation form. This form captured detailed patient demographics (e.g., age, sex, and disease duration), reported oral health complaints, findings from a standardized visual clinical examination of the oral cavity, and details of ongoing medical treatments. Clinical assessments were performed by trained healthcare professionals using established diagnostic criteria for oral lesions, including aphthous

ulcers, granulomatous gingivitis, and mucosal inflammation.

To attribute oral health issues to IBD, trained healthcare professionals conducted comprehensive evaluations that combined clinical examinations, patient-reported histories, and the exclusion of other potential causes. The onset and nature of oral symptoms were analyzed in relation to the patient's IBD diagnosis and treatment history. While the role of medication side effects was considered, characteristic lesions associated with IBD, as documented in the literature, supported their classification as IBD-related manifestations. Lifestyle factors, such as smoking and oral hygiene, were not explicitly excluded but were assessed during clinical evaluations to minimize potential confounding.

All collected data were entered into an Excel database and analyzed descriptively to summarize patient characteristics and oral manifestations, ensuring consistency and accuracy in data reporting.

3. Results

The study sample consisted of 90 patients with chronic IBD receiving care at the Gastroenterology and Hepatology Department of IBN ROCHD University Hospital in Casablanca. Of the total sample, 52.2% were female, and 56.6% were under the age of 40 (**Figure 1**).

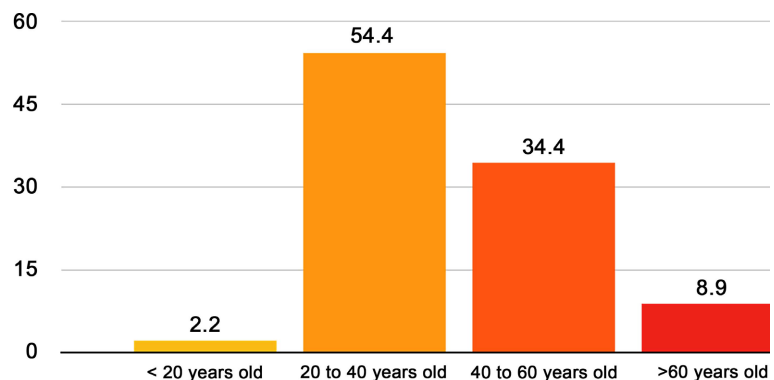


Figure 1. Age distribution of patients with IBD.

The majority of patients (71%) were diagnosed with CD, while the remaining 29% had UC. In terms of disease duration, 63.3% of patients reported having symptoms for a period ranging from 1 to 10 years (**Table 1**). Furthermore, 21.1% of patients had additional systemic conditions. Regarding treatment regimens, 60% were receiving immunosuppressants, 23.3% were taking salicylate derivatives, and 21.1% were on corticosteroids.

Table 1. Duration of disease progression in IBD patients.

Duration of Disease	Frequency (N)	Percentage (%)
<1 year	7	7.8%
Between 1 and 10 years	57	63.3%
>10 years	26	28.9%

In relation to oral health, 73.3% of patients reported experiencing oral health issues following their IBD diagnosis. Of these, 47.8% observed the onset of these problems after their IBD diagnosis, while 50% reported that such issues occurred intermittently. The most commonly reported oral health concern was inflammation (51.5%), followed by ulcers (24.2%) and dental fragility (21.2%) (Figure 2)

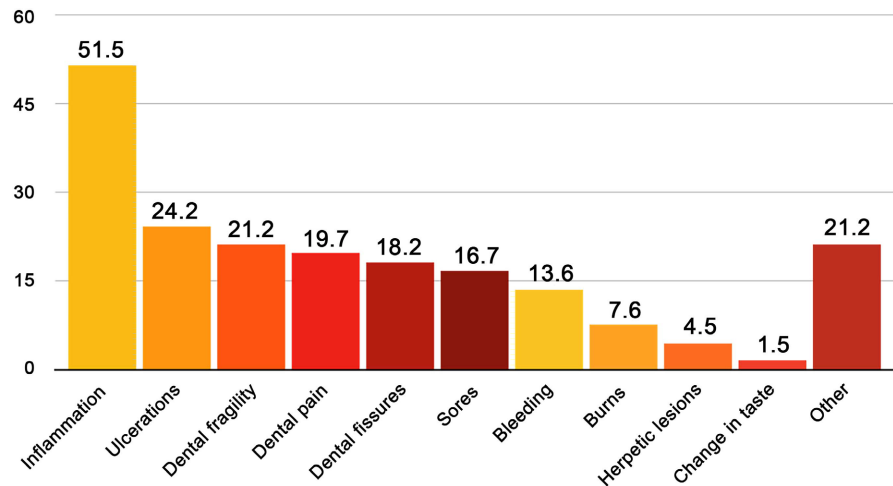


Figure 2. Distribution of oral problems reported by patients with IBD in our study.

When addressing oral health problems, 30% of patients reported taking no action, 22.2% consulted a dentist, and 5.6% discussed the issue with their gastroenterologist.

Clinical examination findings revealed that 62.2% of patients exhibited poor oral hygiene, and 64.6% reported experiencing dry mouth. Dental plaque was observed in 80% of the sample. Regarding oral lesions, 73.34% of patients presented with non-specific lesions associated with IBD (Figure 3), while 11.1% displayed specific lesions, such as geographic tongue and deep ulcers.

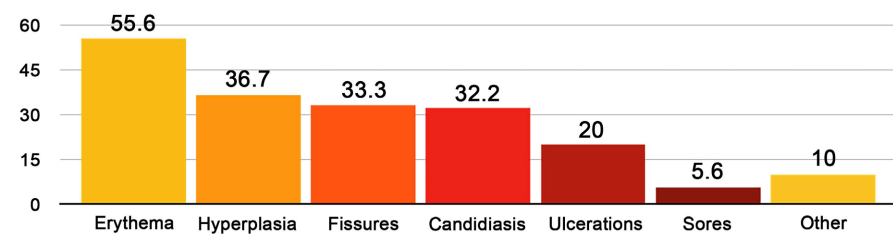


Figure 3. Non-specific lesions were observed within the sample during the clinical examination.

Regarding dental status, 77.8% of patients had dental cavities, 60% had undergone tooth extractions, and 37.8% had dental fillings.

4. Discussion

IBD, primarily CD, and UC, are complex, multifactorial conditions. Our study,

conducted at the IBN ROCHD University Hospital in Casablanca, highlights crucial aspects of IBD, including its epidemiological distribution, oral manifestations, and challenges associated with clinical management.

4.1. Demographic and Epidemiological Profile of IBD Patients

Our study included 90 patients, of whom 52.2% were female. This slight female predominance aligns with findings from previous epidemiological studies, such as those by Delmondes in 2015 and Lima Martins in 2018, which also reported a higher proportion of women with IBD [19] [20]. However, this observation contrasts with studies that demonstrated a male predominance [21] [22]. These discrepancies may be explained by geographical, ethnic, and environmental variations in IBD prevalence.

The mean age in our study indicates that 54.4% of patients were under 40 years old, reflecting a higher prevalence in young adults. This result is consistent with findings by Plevy Scott and other researchers, who observed an increase in pediatric forms of CD [23]. Within our sample, CD was the dominant diagnosis, accounting for 72% of cases, while UC comprised 28%. This distribution aligns with epidemiological data from various global regions but also reflects notable geographic variability. For example, studies in the United States have reported a prevalence of 201 per 100,000 for CD and 238 per 100,000 for UC [24], while in Japan, the prevalence of UC was 63.6 per 100,000 and CD was 21.2 per 100,000 [25]. Similarly, in Northern France, an increase in CD incidence (5.2 to 6.4 per 100,000) was observed from 1988 to 1999, whereas UC incidence decreased from 4.2 to 3.5 per 100,000 during the same period [26]. These variations suggest that environmental, genetic, and socioeconomic factors play a significant role in IBD distribution.

4.2. Oral Manifestations of IBD

Oral manifestations are common in IBD and may appear before, during, or after the onset of gastrointestinal symptoms. In our study, 73.3% of patients reported oral health issues following their IBD diagnosis, with 47.8% noting their onset after diagnosis. Previous studies indicate that the prevalence of oral manifestations in IBD ranges from 0.7% to 37% in adults and 7% to 23% in children [17]. These manifestations include specific lesions, such as mucosal tags and granulomatous cheilitis, as well as non-specific findings like aphthous stomatitis and pyostomatitis vegetans.

A systematic review emphasized that oral lesions can precede or follow gastrointestinal symptoms, necessitating a multidisciplinary approach involving gastroenterologists and dentists for timely diagnosis and treatment [27]. A cross-sectional study in Isfahan reported oral manifestations in 32.3% of IBD patients, with a higher prevalence in CD compared to UC [28]. Additionally, oral lesions often correlate with disease activity and may serve as valuable clinical markers for IBD management [29].

In our sample, the most common oral findings included labial ulcers (24.2%), sores (16.7%), and geographic tongue (4%). These observations are consistent with previous reports by Basu, Michailidou, and Salek, which described similar ulcerative and mucosal lesions in CD patients [30]-[32]. Labial ulcers are characterized by nodular or diffuse swelling of the labial mucosa, often accompanied by painful fissures and bleeding. Sores, on the other hand, present as round ulcers with a yellowish or grayish base [33].

4.3. Periodontal and Dental Issues

Periodontal problems are frequently observed in IBD patients. In our study, 34.4% of patients presented with gingival recession and deep periodontal pockets. These findings align with Flemmig's findings, which noted attachment loss in the majority of IBD patients, and Habashneh's findings, which uncovered periodontal disease in 95% of IBD patients [34] [35]. Periodontal issues can also affect children with IBD, as demonstrated by Woo, who described granulomatous gingivitis in a 6-year-old child with CD [36].

Dental caries were also highly prevalent, affecting 77.8% of patients in our study. This finding may be attributed to high-carbohydrate diets and compromised oral hygiene due to IBD symptoms. Similar results have been reported by numerous studies, which found a higher DMFT (Decayed, Missing, and Filled Teeth) index in IBD patients compared to healthy controls [33] [37] [38].

4.4. Dry Mouth and Other Oral Complications

Dry mouth, or xerostomia, was reported by 64.4% of patients in our study. This condition often results from salivary gland inflammation and leads to hyposalivation. Elevated levels of pro-inflammatory cytokines in saliva, as demonstrated by Nielsen and Brito, can exacerbate gingival inflammation and contribute to xerostomia [38] [39]. Halitosis is another common issue, often arising from a combination of ulcers, xerostomia, and abscesses. Frequent vomiting, a common IBD symptom, can further contribute to halitosis and dental complications.

4.5. Management of Oral Manifestations in IBD

Treating oral manifestations of IBD remains challenging, as lesions do not always resolve with systemic therapy for the underlying disease. Various treatments, including hydroxychloroquine, thalidomide, cyclosporine, methotrexate, and metronidazole, have shown variable effectiveness [40]-[42]. Immunosuppressants, such as cyclosporine, can be effective but require careful monitoring due to potential toxicity. Methotrexate has been shown to induce clinical and histological remission in refractory IBD cases, while antibiotics like metronidazole have demonstrated efficacy, particularly in managing perianal CD.

4.6. Clinical Implications and Recommendations

The findings of our study emphasize the importance of a multidisciplinary approach

to managing IBD patients. Close collaboration between gastroenterologists and dental professionals is essential for identifying and addressing oral manifestations effectively. Complications enhance clinical outcomes and optimize patients' overall quality of life.

To integrate oral health management into standard IBD care protocols, we recommend the incorporation of routine oral health screenings during IBD follow-up visits. Structured collaboration between gastroenterologists and dental professionals is essential, supported by patient education initiatives to promote oral hygiene and preventive care.

Tailored treatment plans addressing oral symptoms alongside systemic therapies should be prioritized. Research focusing on the interplay between oral health and IBD progression is also needed to develop evidence-based care guidelines. These measures will ensure a holistic approach to managing IBD, improving both systemic and oral health outcomes.

5. Conclusions

This study demonstrates a significant prevalence of oral manifestations in patients with IBD, particularly CD, and UC, followed at the IBN ROCHD University Hospital in Casablanca. The findings indicate that a majority of patients experience oral complications, including mucosal inflammation, ulcers, and sores, alongside a high frequency of dry mouth and dental caries. These conditions underscore the critical need for integrating oral healthcare into the multidisciplinary management of IBD.

Oral manifestations often present early and can precede or accompany gastrointestinal symptoms, highlighting their potential role as clinical indicators for disease activity. Early identification and intervention are essential to mitigate these complications, reduce their severity, and improve patient outcomes.

The integration of oral healthcare professionals into the multidisciplinary IBD care team is imperative. Close collaboration between gastroenterologists, immunologists, and dental specialists will ensure comprehensive, coordinated care that addresses both gastrointestinal and oral health aspects.

Further research is warranted to elucidate the underlying mechanisms of oral manifestations in IBD, assess the impact of immunosuppressive therapies, and develop targeted therapeutic strategies. Future studies should also explore the role of oral bacterial flora in disease progression and its management.

Conflicts of Interest

The authors declare no conflicts of interest.

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