Inflammatory Bowel Disease and Oral Health: A Review of Dental Consideration

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Abstract

Inflammatory bowel disease (IBD) is a major problem worldwide that can be categorized into two main disorders, Crohn’s Disease (CD) and Ulcerative Colitis (UC). IBD development is related to a multifactorial combination including environmental factors, intestinal microflora, pathological immune responses, and genetic influences [1, 2, 6]. IBD can affect the complete GI tract, starting from the mouth to the anus [3]. Dental considerations regarding IBD oral manifestations and complications must be acknowledged by dentists to reduce morbidity and mortality, and improve overall patient lifestyle. In this review, we will provide an overview of dental considerations and oral manifestations related to Inflammatory bowel disease.

Keywords: IBD, Oral health, Oral manifestations, Dental considerations, Management.

INTRODUCTION

Inflammatory bowel disease (IBD), or as called Ulcerative colitis and Crohn’s disease, are described by phases of relapse and remission. Differential diagnosis may involve a wide range of infectious or inflammatory diseases that imitate IBD, aside from others that could complicate current IBD [10]. IBD is a chronic inflammatory disease affecting the GI tract. IBD is a lifetime illness arising early in life affecting both genders. The Incidence and frequency of this disease significantly increased in the 20th century. At the start of the 21st century, IBD has been described as one of the most widespread GI diseases with fast-tracking occurrence in developed countries [11]. Dental manifestations of IBD involve periodontal disease and dental caries. Caries is produced because of alterations in the biofilm, therefore causing disruptions in the oral cavity, which cause demineralization of the tooth surface. Additional factors, including systemic diseases and medications, which could affect saliva production are similarly significant in caries development. Moreover, periodontal diseases develop due to dysbiosis, frequently with an impaired host response patient [6].

Signs and Symptoms

IBD is associated with various symptoms, such as abdominal pain, fistulas, anorexia, fever, lethargy, diarrhea, weight loss, anemia, vomiting, and rectal bleeding [1, 3]. IBD can also appear with extraintestinal symptoms in any organ system and can alter the functional state and quality of life of the patient [2]. Extraintestinal complications often appear due to drugs side effects, malnutrition, or chronic inflammation [2].

Main Investigations

A combination of clinical images, endoscopy, laboratory, and pathology can help in the identification of IBD.

Colonoscopy

Present of touch friability, frank hemorrhage, exudates, and petechiae. In addition, for loss of the vascular markings. In ulcerative colitis, colonic involvement is considered continuous. However, in Crohn’s disease, a patchy nature would be seen.

Pathology

Cryp abscesses and chronic alterations such as loss of mucin in goblet cells, atrophy of glands, and branching of crypts may be seen.
Imaging studies

MRI or MR enterography, small bowel follow-through (SBFT), and computed tomography; CTS or CT enterography are Imaging studies used in IBD investigations.

Serologic markers and Antibody tests

Inflammatory markers such as ERS, and CRP. Stool markers such as fecal calprotectin test, Antineutrophil cytoplasmic antibodies (pANCA), and Anti-Saccharomyces cerevisiae antibodies (ASCA).

Table 1: Orofacial manifestations related to inflammatory bowel disease [13].

<table>
<thead>
<tr>
<th>Mucocutaneous manifestations</th>
<th>Specific:</th>
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<tbody>
<tr>
<td>Oral granulomatosis</td>
<td></td>
</tr>
<tr>
<td>Cobblestoning of oral mucosa</td>
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<tr>
<td>Cobblestoning of oral mucosa</td>
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<tr>
<td>Mucosal tags</td>
<td></td>
</tr>
<tr>
<td>Deep linear ulcers</td>
<td></td>
</tr>
<tr>
<td>Pyostomatitis vegetans</td>
<td></td>
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</tbody>
</table>
Non-specific:
Persistent aphthous ulcerations
Glossitis
Cheilitis
Lichenoid reaction
Candidiasis
Perioral edema
Perioral dermatitis
Stomatitis
Gingivitis
Mucosal discoloration
Burning mouth syndrome

Caries
Increased caries prevalence
Increased amount of dental plaque
Increased number of cariogenic bacteria (S. mutans, Lactobacilli)

Periodontal disease
Increased prevalence of moderate severity periodontitis
Aggressive parondontogenic bacteria in dental pockets
Gingivitis

Saliva and salivary glands
Fibrosis of minor salivary glands
Increased number of bacteria in saliva
Dry mouth

Arthritis of temporo-mandibular joint
Odynophagia and dysphagia
Halitosis
Persistent lymphadenopathy

CONCLUSION
Dentist should be familiar with oral manifestation and complications associated with IBD. Increased risk of periodontal diseases and dental caries is the most predominant forms of oral signs [7]. Thus, oral examination must be conducted to ensure early diagnosis and suitable treatment [3]. Oral lesions frequently precede the intestinal symptoms. Thus, the dentist should suspect IBD if oral lesions are present. The significant effect of IBD in oral cavity indicates the necessity for regular dental visits and periodontal assessment. Likewise, teamwork among dentists and GI physicians is important, as treatment plan for IBD patients should be changed depending on activity of the disease and medication used [13].

Summary of Important dental considerations

Regarding 5 ASAs, three things should be acknowledged by the dentists. Firstly, the risk of drug-induced agranulocytosis. Secondly, 5 ASAs may be associated with parotitis which is an enlargement in the parotid gland-like mumps. Thirdly, taste disturbances were also reported by patients [5].

Regarding Purine analogues, there were reported cases of an increase in the risk of lymphoma with Purine analogues which can present as an oral manifestation in the oral cavity [5].

Methotrexate is usually associated with ulcerative stomatitis. In addition, the current reported cases of Epstein-Barr associated lympho-proliferative conditions appearing in the gingiva, which can further cause gingival ulceration [5].

The treatment of oral lesions in IBD patients depends on recognizing the cause of the lesions. These may resolve by treating the intestinal manifestation. Corticosteroids can be used locally to the lesion and Tacrolimus can be effective in oral lesions of CD. Steroid mouthwashes are also used for symptomatic relief [5].

The Previous study showed a greater risk of incidence of dental caries in IBD patients, either CD or UC [8].

REFERENCES


