

Treatment of Gingival Overgrowth in a Patient with Celiac Disease: A Case Report with a 12-Month Follow Up

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1. Abstract

1.1. Aim/Introduction: Celiac Disease (CD) presents a wide variety of clinical signs and symptoms, including oral manifestations. The most reported oral manifestations were recurrent aphthous stomatitis, delayed dental eruption, geographic tongue, dental caries, dental enamel defects and xerostomia/salivary abnormalities. However, data about the other oral manifestations of CD, such as angular cheilitis, atrophic glossitis, glossodynia/burning sensation, and gingival overgrowth, are scanty.

The aim of the case report was to illustrate the sometypical oral manifestations of the CD and to describe the successful treatment of this case.

1.2. CaseReport: A 24-year-old female was diagnosed with Celiac Disease and appropriate therapy was initiated, and it received a good clinical response, except in the oral cavity. She was referred to the periodontology clinic of the university, aphthous ulceration (mucositis), pain, halitosis, xerostomia, gingival bleeding and gingival overgrowth associated with CD. According to the clinical and radiographic findings, periodontal treatment was started with an initial phase of mechanical therapy; including systematic scaling and planning of all accessible root surfaces, improved oral hygiene, use of medications and monitored diet.

1.3. Conclusions: Healing was uneventful after six weeks at the recal visit. There was no sign of gingival overgrowth and bleeding. The patient was followed for 12 months and no periodontal complications developed during this time. Dentists must be aware

that CD, although thought to be uncommon. Proper periodontal care for CD's patients is essential both for oral and systemic health

2. Introduction

Celiac Disease (CD) is an immune-mediated chronic inflammatory disorder, which an intestinal disease caused by intolerance to gluten associated with poor digestion and absorption of the majority of nutrients and vitamins, may affect both developing dentition and oral mucosa. CD is also called gluten-sensitive enteropathy [1-3]. Gluten is the trigger for coeliac disease. Gluten proteins contain high levels of proline and glutamine (15% and 35%, respectively). The estimated prevalence of CD is about 0.5-1% of the world's population, and may be seen in both sexes and at any age [3-8].

The diagnosis of celiac disease was established by means of medical clinical exam, biopsy of the small intestine, and by the presence of specific antibodies in the blood [1-6].

It is characterized by a variety of clinical symptoms, both intestinal including abdominal pain, diarrhea, malabsorption, weight loss and extra-intestinal such as abnormal liver function, anemia, osteoporosis, neurological problems, and oral manifestations [1-5].

The oral manifestations include delayed dental eruption (47.34%), dental enamel defects (42.47%), xerostomia/salivary abnormalities (38.05%), recurrent aphthous stomatitis (34.6%), and dental caries. The other manifestations including atrophic glossitis and geographic tongue (15.26%), glossodynia/burning tongue (14.38%), angular cheilitis, fissured tongue, burning tongue, and

periodontal diseases [8-17]. It is still not clear whether the oral lesions represent a direct manifestation of CD or whether they occur as a result of the indirect effects of poor absorption on the cells of the basal layer of the mucosa, which is in the process of division and already predisposed to irritation by a preexistent disease [1-5]. There are currently a limited number of literatures on the oral manifestation of CD, and none of them reported gingival overgrowth. Therefore, the aim of the case report was to illustrate the sometypical oral manifestations of the CD and to describe the successful treatment of patient.

3. Case Report

A 24-year-old female (Height: 163cm; Weight: 40kg) was diagnosed with Celiac Disease and appropriate therapy was initiated, and it received a good clinical response, except in the oral cavity. She was referred to the periodontology clinic of the university, mucositis, hypersensitivity, halitosis, mouth dryness, gingival bleeding and gingival overgrowth associated with CD.

Her past medical history included osteoporosis and Celiac Disease managed with Vitamin D, B12 and Ibandronic Acid, and instructed to follow a gluten-free diet. She had not a history of drug allergies. She did not use mouthwashes and chewing gum, did not smoke and did not take alcoholic beverages. She had used several brands of toothpaste during the past two years and brushed two times a day.

According to the patient, she suffered from excessive gingival overgrowth and bleeding accompanied by elevated gingival redness, burning sensation, aphthous ulceration, halitosis, xerostomia, metallic, and bitter taste in her mouth.

On intra-oral examination, there was a gingival overgrowth, bleeding, and reddish associated with accumulation of dental plaque. Lobular gingival overgrowth was observed at all intradental papillas, particularly at the labial gingiva of the lower anterior region (Figure 1). In addition, a mild supra-gingival calculus around her teeth, slightly tenderness, attachment loss in the interproximal areas of the posterior teeth, non-sensitive to percussion, carious lesions and tooth mal-positioning were observed. Other findings included mucositis, mouth dryness, halitosis, loss of taste, and filling teeth. Her stimulated whole saliva flow rate (0.95 ml/minute) was low. The patient also exhibited burning tongue, which was covered with a thin and yellowish layer (Figure 2).

A panoramic radiograph showed slightly alveolar bone alterations including periodontal space on the posterior teeth (Figure 3). Table 1 shows the patient's clinical periodontal findings.

After having undergone clinical and radiographical examinations she was diagnosed as localized gingival overgrowth and chronic gingivitis. Histological features remains to be established.

For treatment of patient, plaque control and professional periodontal therapy are mandatory. The patient was instructed to brush her

teeth with soft-filamented toothbrush twice daily, for 3min each time. Two weeks after oral hygiene instruction was begun, proper home care habits were established.

Afterwards, the full-mouth scaling and root planning, crown polishing, subgingival curettage and irrigation with Povidone-Iodine were performed carefully to remove any local irritating factors that may have been responsible for the gingival inflammation. Then, full scaling and polishing were repeated once every ten weeks. The patient was prescribed antibiotics (amoxicillin + metronidazole 500mg, every 12 hours, 7 days), and instructed to rinse twice daily with 0.12% chlorhexidine oral rinse (Kloroben®, Drogan Drug Ltd., Istanbul, Turkey) for seven days. If there was gingival overgrowth, it was excised.

Six weeks following periodontal therapy, the affected regions of gingival tissues had completely healed, and there were no gingival reddish, bleeding and swelling (Figure 4). Healing was uneventful after 3, 6 and 12 months at the recall visits. There was no sign of gingival overgrowth and bleeding, and no periodontal complications developed during this time.

We state that we have followed the Helsinki declaration and that written permission was obtained from the patient included in the present report.



Figure 1: Clinical intraoral view of gingival overgrowth



Figure 2: Clinical aspect of the patient's tongue



Figure 3: Panoramic radiograph view



Figure 4: View of the case six weeks after all therapy. Normal appearance was established.

Table 1: Periodontal findings of patient before and after periodontal therapy.

Periodontal Finding	Before	After
Surfaces with visible plaque (%)	61,5	22,8
Bleeding on probing surfaces (%)	63,4	21,6
Surfaces with calculus (%)	42,3	18,2
Percentage of sites with pockets 3 to <6mm	22,5	3,0
Percentage of sites with pockets ≥6mm	0,0	0,0
Surfaces of recessions (%)	6,8	6,4
Total attachment loss (mm)	1,8	0,6

4. Discussion

Celiac Disease (CD) is characterized by a variety of oral clinical signs and symptoms, including medical manifestations. Some of them includes recurrent aphthous stomatitis, dental caries, dental opacities, filling teeth, mouth dryness, halitosis, hypersensitivity, loss of taste, burning sensation, atrophic glossitis, and periodontal diseases, as was demonstrated in this case [1-5]. To our knowledge, the association between gingival overgrowth and CD has not been reported so far. In addition, the present case illustrates results with association between gingival overgrowth and CD.

Treatment of CD currently involves lifelong adherence to a gluten-free diet. If left inadequately treated, CD can lead to osteoporosis, infertility, and other problems such as type 1 diabetes mellitus, thyroid disease, and malignancies including T-cell lymphoma [2-14]. The case described here demonstrates that failure to adhere precisely to a gluten-free diet is a potential cause of osteoporosis due to CD.

Halitosis, loss of taste, and mouth dryness were observed in the present case, which is considered in part to low salivary flow. In our patient, the low salivary flow at the initial examination may have been due to CD. The previous literatures reported that CD patient's had decreased salivary flow, halitosis, loss of taste [10-17]. Recurrent aphthous stomatitis and burning sensation are two of the

oral manifestations most frequently described in CD. According to the literature, there is a decrease with the introduction of a gluten-free diet [4-6]. Since only effective treatment currently available for CD is to adopt a gluten-free diet, she has been instructed to follow a gluten-free diet, but has limited success as is observed in this case.

In the patient presented here, there are lobular gingival overgrowth in the gingival papilla on the anterior region of mandibula. To our knowledge, there have been no reported cases of gingival overgrowth induced by CD. Gingival overgrowth is a common feature of gingival disease, and form of periodontal tissue reaction to several irritating factors. It can be located in interdental papilla, marginal and attached gingiva [18-25]. There are many reasons for gingival overgrowth including poor oral hygiene (accumulation of dental plaque), drug-induced, hereditary or idiopathic, hormones-related (pregnancy, growth-hormone), systemic (leukemia, neurofibromatosis), neoplastic, and syndrome associated [23-25]. It has been shown by several studies a strong association between dental plaque and gingival overgrowth, but it is not yet clear if plaque accumulation is a causal factor or a consequence of the morphological gums changes [18-23]. The dental plaque and inflammation might be a significant risk factor for gingival overgrowth.

One of the most important keys to successful treatment of gingival overgrowth is the cooperation between the periodontist and the patient. Treatment of gingival overgrowth varies according to the gravity of the condition. Previous literatures reported that the initial treatment should be included oral hygiene instructions followed by periodontal therapy including scaling, root planing, and crown polishing, subgingival curettage, medical therapy, surgical excision and guidance for patient [18-25]. The most efficient surgical method of removing gingival overgrowth is the conventional flap and external bevel gingivectomy, which was performed to obtain esthetic results and to enable the patient easier plaque control for our patient [18-22]. Weekly periodontal check-ups (professional mechanical debridement) were scheduled to control the gingival inflammation and overgrowth during the ten weeks. Gingival overgrowth may recur, however, it had not recurred 12 month after periodontal therapy in the present case.

5. Conclusions

Dentists must be aware of oral manifestations of CD, although thought to be uncommon, and play an important role in the early diagnosis of CD and may help prevent its progress and long-term complications. Proper periodontal care for CD's patients is essential both for oral and systemic health. A gluten-free diet can lead to an improvement in the oral manifestations of the disease.

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