DENTAL CONSIDERATIONS OF CELIAC DISEASE-A CASE REPORT
Shambulingappa Pallagatti, Sohey! Sheikh, Amit Aggarwal, Ravinder Singh, Deepak Gupta, Simranpreet Kaur

ABSTRACT
Celiac disease is one of the most common chronic gastrointestinal disorders in the world. This paper reports an 18-year-old female with a missing tooth and based on investigations was diagnosed as case of celiac disease.

Keywords: Celiac disease; Chronic gastrointestinal disorders; Malabsorptive disorder

Introduction
Celiac disease is one of the most common chronic gastrointestinal disorders in the world. It was thought to be a rare malabsorptive disorder of infancy and childhood; however, it is now considered to be a common, chronic, multi-system disorder that can present at any age when gluten is present in the diet. Approximately 1% of the world population is affected, and many patients go undiagnosed for years. It is now widely recognized that the mouth and teeth can be affected in celiac disease. Dental enamel defects and aphthous ulcers are the most common and well-documented oral manifestations, and several studies have confirmed the occurrence of these lesions in both children and adults with celiac disease.

Case Report
An eighteen year old girl reported to the Department of Oral Medicine and Radiology with a chief complaint of loss of tooth in right upper front region one week back. History of present illness dated back to two weeks when patient first noticed mobility in that tooth. But one week back it fell out of the socket by itself. During anamnesis, it was found out that she was a gluten-sensitive individual. At the time of diagnosis, over half of all celiac patients present with chronic constipation rather than diarrhea. As a result of this varied range of symptoms, the estimated delay in diagnosing the adult disease is 11 years from the onset of symptoms. It is now widely recognized that the mouth and teeth can be affected in celiac disease. Dental enamel defects and aphthous ulcers are the most common and well-documented oral manifestations, and several studies have confirmed the occurrence of these lesions in both children and adults with celiac disease.

General physical examination revealed pale skin and generalised weakness. Oral examination revealed generalised gingival recession and missing tooth in relation to 13 (Figure 1, 2). Orthopantogram revealed generalised bone loss and missing tooth in relation to 12 and restoration done in relation to 27 (Figure 4). The patient was subjected to various lab investigations. The tongue appeared bald (Figure 3) and the teeth exhibit ed black linear discoloration and roughened enamel surface. The patient suffered from anemia and osteoporosis. Hemoglobin was 7.6 gm/dl, MCV 84 fl, MCH 27.5 pg, and Hematocrit level was 26.8%. Cell count, MCV, MCH, MCHC and Hematocrit levels were decreased.

Dental considerations of celiac disease: a case report

The cornerstone of treatment for coeliac disease is lifelong adherence to a strict gluten-free diet (GFD). Here we present a case of 18 year old girl who came to the department for missing tooth and on investigation it was diagnosed to be a case of celiac disease.
Discussion
Recent epidemiologic data have shown a prevalence of CD approaching 1% in the general population. CD is an auto-immune disease resulting from an inappropriate T cell-mediated immune response against ingested gluten. Although the proximal part of the intestinal mucosa represents the main site of the gut involved in CD, it has been demonstrated that gluten-driven T-cell activation is not restricted to the small intestine, but is present in the whole GI tract. The mouth, the first part of the GI system, represents a site very easy to detect and an oral examination could give a useful diagnostic contribution as lesions of the hard and soft tissues have been reported in CD. As abnormalities of the oral cavity have been reported in CD, a non-invasive clinical examination of the oral cavity can contribute to identify patients with atypical or silent CD. Indeed, a wide range of frequencies of enamel defects in CD patients has been reported in other studies. It has been reported that RAS is at least among the fifth commonest presentations of CD.

Oral examination in our case revealed generalised gingival recession and missing tooth in relation to 13. The tongue appeared bald and the teeth exhibited black linear discoloration and roughened enamel surface. Individuals suspected to have aggressive periodontitis are at a risk of premature tooth loss. Three primary conditions for a successful diagnosis of aggressive type of periodontitis (systemic health, familiar aggregation and rapid attachment loss) relay on the patient's recognition.

In this case patient had a chief complaint of mobile teeth and she had pale skin and generalised weakness. Her mother wore dentures suggesting that she lost her teeth at very early age. Also her sister complained of similar kind of problem, making us think in the direction of aggressive periodontitis, although her medical reports were not available at that time. However, there has been a noticeable change in the clinical presentation of CD, as almost 50% of the patients with newly diagnosed CD do not present with gastrointestinal (GI) symptoms thus making diagnosis difficult. Thus, to identify the greatest number of ‘atyypical’ or ‘silent’ CD patients and prevent complications, clinicians must investigate ‘at-risk subjects,’ e.g., those with chronic anaemia, hypertransaminasemia or hyperamylasemia of unknown origin, osteoporosis, and autoimmune thyroid disorders. Our patient was found to be severely anaemic and hypocalcaemic. Tissue Transglutaminase Antibody (tTGA), IgA levels in blood and ESR levels were raised whereas Red Blood Cell count, MCV, MCH, MCHC and Hematocrit levels were decreased, suggesting that it might be Celiac disease. The typical jejunal damage associated with active celiac disease, showing villous atrophy, crypt hypertrophy, and increased intraepithelial lymphocyte count, was first described in 1957 by John Paulley in the UK. Since then, the histological analysis of small bowel biopsy specimens, initially taken by capsule and then by standard upper endoscopy, has become the gold standard for celiac disease diagnosis. In our case, diagnosis of celiac disease was confirmed by the biopsy.

The cornerstone of treatment for celiac disease is lifelong adherence to a strict gluten-free diet (GFD). For the majority of patients, a GFD leads to clinical and histological remission, normalisation of standardised mortality rates, a reduction in long term health complications (i.e. osteoporosis) and in some studies, an improvement in psychological well-being and quality of life. In our case, after one month follow up, patient’s symptoms had subsided. She felt less lethargic and her blood reports had started getting better.

Conclusion
Celiac disease is the only treatable autoimmune disease, given that a correct diagnosis is reached and a strict lifelong gluten-free diet is executed. Most patients present with atypical signs and symptoms of disease. Dentist may be the first person to diagnose a case of Celiac disease because oral manifestations are present in large number of cases. Appropriate referral and a timely diagnosis can help prevent serious complications of this disorder.

Authors Affiliations
1. Shambulingappa Pallagatti MDS, Professor, Department of Oral Medicine and Radiology, M.M. College of Dental Sciences and Research, Mullana, Ambala, Haryana, India, 2. Soheyl Sheikh MDS, Professor, Department of Oral Medicine and Radiology, M.M. College of Dental Sciences and Research, Mullana, Ambala, Haryana, India, 3. Amit Aggarwal MDS, Assistant Professor, Department of Oral Medicine and Radiology, M.M. College of Dental Sciences and Research, Mullana, Ambala, Haryana, India, 4. Ravinder Singh MDS, Assistant Professor, Department of Oral Medicine and Radiology, M.M. College of Dental Sciences and Research, Mullana, Ambala, Haryana, India, 5. Deepak Gupta MDS, Assistant Professor, Department of Oral Medicine and Radiology, M.M. College of Dental Sciences and Research, Mullana, Ambala, Haryana, India, 6. Simranpreet Kaur BDS, Post Graduate Student, Department of Oral Medicine and Radiology, M.M. College of Dental Sciences and Research, Mullana, Ambala, Haryana, India.

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References


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Address for Correspondence
Dr. Simranpreet Kaur BDS,
Post graduate student,
Department of Oral Medicine and Radiology,
M.M. College of Dental Sciences and Research,
Mullana, Ambala, Haryana, India.
Email: simransaini2@yahoo.co.in

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