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RESEARCH ARTICLE

CELIAC PRESENTING AS ATYPICAL DENTAL DISEASE

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Abstract

Introduction-Celiac disease has immune based autoimmune disease which is noticed in genetically predisposed persons and isdue to gluten allergy. It was initially thought that it is disease of children and presents with typical or classical symptoms associated with gastro-intestinal tract like pain abdomen, diarrhoea or constipation. Now, it has been proven that it is commonly seen in adult age also and in half of cases presents with atypical or unclassical symptoms which are mainly due to nutrients or minerals deficiency. Thus, patients can have neurological, psychiatric, dental or reproductive problems. The dental problems have varied presentations like delayed eruption of teeth, dental enamel defects, dental decay, periodontitis etc. The dental involvement in celiac disease is mainly seen in children and may or may not respond to complete gluten restriction.

Case Report- We report a case of seven-year-old child who was asymptomatic but celiac disease was diagnosed recently in his father due to unexplained transaminitis and on family screening, he was diagnosed to be celiac and his dental examination showed dental enamel defect localized unilaterally in upper incisors and canines only. He was put on strict gluten restricted diet but even after follow up of one year, there was no improvement in teeth.

Conclusion- Celiac disease has varied atypical presentations like involvement of teeth which is commonly missed. It lays stress of its awareness among Dentists, Endocrinologists and General Physicians for timely diagnosis for avoiding permanent damage to teeth which have huge cosmetic value.

Introduction:-

Celiac disease has immune based autoimmune disease which is noticed in genetically predisposed persons and is due to gluten allergy**[1-3].**The global prevalence of CeD has been estimated at around 1.7% based onpositive serology and 0.7% based on biopsy-confirmed CeD **[4].**It was initially thought that it is disease of children and presents with typical or classical symptoms associated with gastro-intestinal tract like pain abdomen, diarrhoea or constipation. Now, it has been proven that it is commonly seen in adult age also and in half of cases presents with atypical or unclassical symptoms which are mainly due to nutrients or minerals deficiency. Thus, patients can have neurological, psychiatric, dental or reproductive problems. The dental problems have varied presentations like delayed eruption of teeth, dental enamel defects, caries, plaques, teeth enamel wear,periodontitis,recurrent oral

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ulcers, dry mouth due to malabsorption of essential nutrients like calcium and vitamin D, which are essential for healthy tooth development**[5-7]**; dentists can play a significant role in identifying them**[8]**. The dental involvement in celiac disease is mainly seen in children and may or may not respond to complete gluten restriction.

Case Report

A fourty two-year-oldmale presented with unexplained transaminitis for last one year and after ruling out all other causes, he was diagnosed to be celiac disease on basis of serological, endoscopic and histopathological examination of duodenal biopsy. He was put on strict gluten restricted dietand within three months transaminases became normal and after one year of follow up on strict gluten restricted diet, his transaminases are normal. As per protocol, his family was screened for celiac disease and his wife was normal but his seven-year-old son who was asymptomatic, showed significant rise of serum IgATTG antibody level of 110 IU/ml, whereas normal range was 0-20 IU/ml. He was subjected to upper gastro-intestinal endoscopy which showed moderate scalloping of duodenal folds and on histopathological examination proved it to be celiac disease with Marsh Grade 3 stage. On general physical examination, the teeth of this child had dental enamel defect selectively in upper incisor and canines which parents admitted that it was for last two years. His rest examination including systemic one was normal. All his biochemical tests including hemogram, blood sugar, thyroid profile was normal except for slightly low level of serum calcium and serum Vitamin D3 level. He was immediately put on strict gluten restricted diet, along with calcium and vitamin D3 supplementation. After six months of gluten restricted diet, his Serum IgATTG antibody, Calcium, Vitamin D3 levels were found to be normal but there was no improvement in teeth. He was reviewed again after a gap of one year but still there was no change in dental enamel defect in upper incisors and canines.

Figure 1:- Showing Dental Enamel Defect selectively in upper Incisors and canines in Celiac Disease.

Discussion:-

Celiac disease has a varied range of extraintestinal manifestations like oral lesions **[9]** which left untreated can increase the risk of developing other autoimmune diseases, osteoporosis,infertility, and certain cancers **[10]**. The persistent immune responseto gluten-derived peptides in celiac disease may also contribute to oral inflammation. The complex interplaybetween genetic predisposition, gut microbiota, and environmentalfactors decides the response to gluten and its impact on bothintestinal and oral tissues**[11]**.Patients who develop CDbefore seven years of age may develop defective enamel formation of theirpermanent teeth**[12-15]** and it leads to bilateral, symmetrical white or yellowopacities, with or without horizontal linesor grooves. Enamel becomesglaze less and may develop enamel structural defects may be present.

The lesions are usually seen in all fourquadrants and mainly affect thepermanent incisors and molars; howeverdeciduous canines and second molars canexhibit enamel defects**[12,13]**.The possible reason for dental enamel defects is hypocalcaemiacaused by malabsorption, a gluten-induced immunological process thatoccurs in patients between ages of 6months up to 7 years, which damagesthe enamel-producing organ**[14]**. Our patient also developed features of enamel bone defects at age of five without any other symptoms associated with celiac disease. Moreover, it is not necessary to have involvement of all the four quadrants, as evident by our case which had selective involvement of upper incisors and canines only. The literature has already proved that dental enamel defects may not reverse and it applies to our case also but still strict gluten restricted diet has to advised most likely life long to avoid complications and development of other associated autoimmune diseases with celiac disease.

Conclusion:-

Celiac disease has varied atypical presentations like selective involvement of dental enamel which is commonly missed. It lays stress of its awareness among Dentists, Endocrinologists and General Physicians for timely diagnosis for avoiding permanent damage to teeth which have huge cosmetic value.Moreover, it is not necessary to have involvement of all the four quadrants, as evident by our case which had selective involvement of upper incisors and canines only.

Conflict Of Interest-

No conflict of interest and prior permission from patient and relatives was taken before publishing the case report.

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