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Crohn's Disease with Gingival Enlargement as the First Sign: A Case Report

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ABSTRACT

Crohn's disease (CD) is a process of gastrointestinal mucosa inflammation that could be seen in any part of the gastrointestinal tract from oral to anus. Oral lesions could be the first sign in most patients. The lesions in Crohn's disease are divided to specific and nonspecific lesions. The specific lesions are less common than nonspecific ones. Tag-like lesions and cobblestones are some of the specific lesions and ulcer is a non-specific lesion. The diagnosis of Crohn's disease is based on a combination of symptoms, enteroscopy, gastroscopy, capsule endoscopy, histopathology and imaging. Oral involvement of CD is also known as oral Crohn's disease (OCD). Early diagnosis of OCD may be the most influential factor in controlling it. This case report presents a 47-year-old female patient with gingivitis and gingival erythema and enlargement as her chief complaint which was the first sign of CD.

Keywords: Pathology; Oral; Crohn's disease; Gingival enlargement.

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Introduction

Crohn's disease (CD) is a chronic inflammatory disease characterized by inflammation of the gastrointestinal mucosa. It can affect any organ of the digestive system from oral to the anus [1-4]. The incidence and prevalence of CD have increased in worldwide [5]. The onset of the initial presentation varies from 15 to 30 years of age. But it can occur at any age [4-6]. The incidence of oral CD manifestations ranges from 5% to 50% and is more common in men and children [6-8]. Oral lesions may be the first sign in 60% of patients. Although oral mucosal lesions and symptoms may be more severe during flare-ups, the correlation is not universal [2]. Specific oral lesions are characterized by the presence of noncaseating granulomas on histopathological analysis. Specific lesions are less common than nonspecific lesions. The most common are indurated tag-like lesions, cobblestones and mucogingivitis [9]. This report describes a rare case of an adult female who presented with a chief complaint of gingivitis and gingival erythema and enlargement. According to clinical, laboratory and histopathological findings, the diagnosis of Crohn's disease was made.

Case Presentation

A 47-year-old female patient with normal systemic condition was referred to the Dental School of Isfahan University of Medical Sciences for a check-up. Although patient's appearance was normal, the oral examination revealed hemorrhagic gingivitis, bleeding gums and gingival erythema and enlargement (Figure 1). For histopathological analysis, the incisional biopsy was taken from the patient's upper anterior gingiva. In the histopathological feature, non_necrotizing granulomatous inflammation with epitheloid lymphocytes, histocytes and Langhans giant cells was observed in gingival connective tissue (Figure 2,3).

Based on clinical and histopathological features, the differential diagnosis of fungal infection, tuberculosis, or syphilis was made up. After this, the patient was referred to hematology center. Table 1 shows the results of the blood test of the patient. According to the patient's history, the patient had been referred to the medical center for severe intestinal bleeding in the last two months. The patient was forbidden from eating and was allowed to get nutrients only by serum. He was also prescribed mesalazine, corticosteroid, metronidazole and azathioprine. According to the clinical differential diagnosis of oral lesions and the patient's history, the patient was referred to a gastroenterologist for further investigations. In the histopathological view of the colon tissue biopsy, mucous glands with regenerative changes were observed. No changes indicative of dysplasia or malignancy were observed in the examined tissue cells. In lamina propria of examined tissue, the severe infiltration of acute and chronic inflammatory cells was seen, which formed granuloma along with epithelioid cells. For further examination of the patient, another biopsy was taken from rectum tissue. In microscopic examination of rectum, a granulomatous reaction consisting of inflammatory cells is evident in submucosa. Degenerative changes including a decrease in intracellular mucin content, nuclei hyperchromatism and mitosis were observed at the base of the crypts. Also, there were accumulations of tubercles with foreign body giant cells and langhans cells along with eosinophils, lymphocytes and plasma cells.

According to the clinicopathological investigations, ileostomy was performed for the patient and she was prescribed mesalazone 500mg 8 times a day, azathioprine 50mg 3 times a day, metronidazole 250mg 3 times a day, and ciprofloxacin 500mg 2 times a day. A few months after the surgery, the symptoms of the disease decreased and finally, the corticosteroid was stopped. However, the patient continued with other medications. After six months, incisional biopsy was taken of the ileum and gastric tissue was sampled again. In the histopathological view of ileum, villous mucosa with columnar cells and goblet cells were seen. However, the submucosa, longitudinal and circular muscle layers showed normal histological appearance. No granulomatous inflammation was seen. Furthermore, in microscopic examination of gastric sample, sections of glands and lamina propria were observed. Infiltration of lymphoplasmacytic inflammatory cells was seen in lamina propria.

Fungal elements were not observed in PAS staining. However, some Helicobacter Pylori spores were significant in Giemsa staining. No signs of malignancy were observed in these samples. Also, samples of sigmoid tissue and rectum were prepared from the patient. Benign ulcer with the pattern of active Cripps destructive colitis was observed in the histopathology of these samples. A few giant cells were also seen in ulcerative areas. Furthermore, the sigmoid colon biopsy showed periulcer cryps destructive colitis compatible with Crohn's disease. In addition, rectum biopsy revealed benign active ulcer in favor of Crohn's disease. There was also squamous polyp with no malignancy in anus biopsy. In MRI of internal pelvic organs with and without contrast medium, there was an intrapelvic si-

nus tract. In addition, this tract with enhancing inflammatory wall was seen coursing from posterior aspect of lower rectum and right perirectal region extending to tight adnexa and region of right ovary. There was normal appearance of bladder with no evidence of irregularity in walls. Uterus and cervix are grossly normal. A simple ovarian cyst of 30mm in size at right ovary was observed. A 12mm intramural myoma at fundus of uterus was noted. No ascites or pelvic lymphadenopathy was seen.

According to all data of clinicopathological evaluation, the histomorphological findings (granulomatous patchy inflammation and mild architectural changes) are compatible with Crohn's disease with anal canal stricture, in proper clinical context. An infective etiology (tuberculosis, yersinia) should be excluded. After following the patient for six months, the results showed great healing process. However, the periodontal problem is not totally solved and gingivitis could still be seen.

Figure 1. Hemorrhagic gingivitis representing bleeding and inflammation.

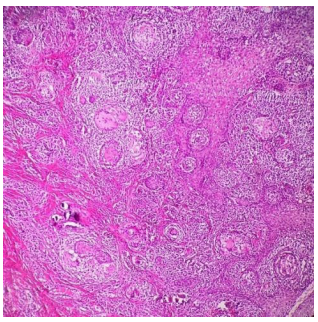

Figure 2. Non-necroziting granulomatous inflammation (H&E staining x40).

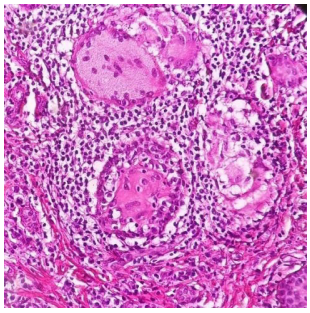

Figure 3. Epitheloid lymphocytes, histocytes and langhans giant cells (H&E staining x100).

Figure 4. Healing gingival tissues after six months.

Table 1. The results of blood test of the patient.

Hematology			
Test		*Result*	*Reference Range*
WBC	*High*	*17.3*	*3.5-10*
RBC		*5.27*	*4.2-5.4*
MCV	*Low*	*73.4*	*82-100*
MCH	*Low*	*23.0*	*26-33*
MCHC		*31.3*	*31-35*
RDW-SD		*42.4*	*36-49*
RDW-CV	*High*	*16.4*	*11.5-15.5*
PLT (Platelets)		*293*	*150-410*
Neutrophil	*High*	*13.49*	*1.8-8*
Lymphocyte		*2.48*	*1-3*
Monocyte	*High*	*1.24*	*0.2-1*
Eosinophil		*0.08*	*0.02-0.5*

Serology			
Test		Result	Reference Range
ESR1h	High	21	>14
(CRP) C-Reactive Protein		2	Positive>6
Vitamins/Drugs			
Vitamin	B12 (transcobalamin)	425	160-990
Folate (Folic Acid,B9)		12.3	Deficiency < 3
Vitamin	D	45	Deficient < 30 Toxic level < 100

Discussion

Diagnosis of CD is based on a combination of clinical symptoms, gastroscopy, endoscopy, capsule endoscopy, histopathology, and radiographic evaluation [10]. Oral involvement with intestinal CD is typically termed oral Crohn's disease (OCD). Despite extensive research and expert knowledge of this disease, it is usually unknown or ignored by experts [11]. The prevalence of OCD in adult patients is to be lower at about 20% but has been reported as high as 50%. Patients with OCD have a lower age than the average age of all patients of CD [10-12]. There is also a higher prevalence of perianal involvement in patients with OCD than in those with CD [13]. The clinical features of OCD are very different. Common oral regions involved in this disease are lips, buccal mucosa and gingival tissue. Gingival hyperplasia and swelling are also seen in OCD and they may extend beyond the gingiva and involve the adjacent alveolar mucosa. Palate involvement is rare in this disease [13,14].

One of the most important diseases that is clinically and histopathologically similar to Crohn's disease is orofacial granulomatosis (OFG). There are lips enlargement, mucosal and gingival swelling and oral ulcerations illustrating non-caseating granulomas on biopsy in OFG. The diagnosis is made with the absence of identifiable intestinal CD or sarcoidosis. In addition, for definitive diagnosis of CD, infectious causes, specially tuberculosis, atypical mycobacterial infection, tertiary syphilis and rare fungal diseases (Cryptococcus and Histoplasma) must be excluded [11,12]. Treatment of OCD must be consistent with the patient's overall CD management. Regarding the treatment response, the clinical features of OCD may behave differently and independently of CD bowel. Treatment for OCD ranges from topical medications to systemic therapies, sometimes in addition to those required for the management of intestinal CD. Topical and oral corticosteroid ointments are the primary source of treatment [11,14]. In this case report, we have described a 47-year-old female with gingival enlargement as her initial manifestation of CD. This case emphasizes the importance of recognizing variations, sometimes subtle in the presentation of oral CD and performing necessary diagnostic procedures, such as biopsy for histopathological confirmation. Accurate identification of oral lesions is crucial because studies have shown that only a minority of patients will continue to have oral lesions during follow up [14,15]. Furthermore, it has been reported that the ability of physicians to identify oral CD is low when using dental examination as a comparator [15]. Therefore, the dental practitioner is in a unique position to detect oral CD which may lead to early diagnosis, timely treatment and ultimately better outcomes for affected patients.

Conflict of Interest

There is no conflict of interest to declare.

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