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Role of oral medicine specialist in disclosing systemic lupus erythematosus: A diagnostic dilemma

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ABSTRACT

Systemic lupus erythematosus(SLE) is a connective tissue disease in which organs such as liver, kidney and heart in addition to skin and mucosa are involved. Oral findings are one of the diagnostic criteria which can be presented with ulcer or red and white lesions. In this article we report a case of SLE that is diagnosed by oral medicine specialist on the basis of oral ulcers. A 16-year-old female was referred to oral medicine department with 3 months lasting oral ulcers. There was a history of transient artheralgia in review of systems. In extra oral examination a butterfly diffuse erythema was observed on nasal bridge and malar prominences. Oral ulcers had different forms and involved different parts of oral mucosa. Due to chronic oral ulcers , malar rash and history of artheralgia ,a presumably diagnosis of SLE was affirmed. She was referred and hospitalized to rheumatology department. Oral and skin lesions were improved significantly in follow up examination. Oral findings may be the first diagnostic presentation of SLE. It is important for dentists to pay attention to medical history and different systemic symptoms to achieve accurate clinical diagnosis.

Key words: Systemic lupus erythematosus, Oral ulceration, Case report, Oral Medicine, Iran

INTRODUCTION

Systemic lupus Erythematosus (SLE) is one of the most important immunity related diseases with unknown etiology, although several factors such as autoantibodies, immune complex, tissue damage, genetic factors (e.g. specific HLA types and gene loci), environmental factors (e.g. exposure to sun light and infections) , endocrine agents and drugs can predispose an individual to this disease (1,2) .There are four main clinic-pathological forms: systemic, discoid (chronic cutaneous),acute cutaneous and subacute cutaneous(3).Organ damage occurs as a result of direct attachment of autoantibodies to host antigens or precipitation of immune complex in small vessels and tissues (vasculitis). (1,2,4)

There is a female predominance (10:1) and blacks are involved more frequently.

SLE typically arises in adults aged 15 to 45. (1,2,5)Only 15% of individuals with SLE are younger than 18 year at the time of diagnosis(6).

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Clinical manifestations of this disease vary upon specific organ involvement. Fever, fatigue and weight loss are of clinical components. (7) Arthritis is the most common clinical manifestation of this disease (in 90% of patients) (1,7) and usually appears symmetrically. Interphalanges, knees, wrist and metacarpal joints are affected more frequently.(1) Malar rash, dry pruritic skin, gasterointestinal disorders and muscle spasms are of other clinical signs.(1) Diagnosis of this disease can be made via clinical and paraclinical findings.. If four of 11 criteria become evident simultaneously or consecutively in the course of this disease diagnosis can be made with a 75% sensitivity and 95% specificity. (1)

Oral manifestations can be the first presentation of disease, and may lead to diagnosis. Incidence of oral manifestations, was first reported by Monach (1931)as 50%, (8) and Vasculitis is considered as the main etiology of oral lesions (1,7,8,9).

These manifestations include: nonspecific chronic ulcers, erosion, inflammation, erythema and keratotic white lesions (papule, plaque …) or even granulomatous lesions and malignant transformation of oral ulcers. (1,3,7,8)Candidosis, periodontal disease and temporomandibular disorders and desquamative or marginal gingivitis are other oral findings of SLE. (1, 8, 9, 10,11) In advanced SLE , xerostomia may appear (1).Sometimes delayed primary and permanent tooth eruption and twisted root formation can be encountered as a result of corticosteroids treatment (10).

The affected sites are the buccal mucosa, gingiva, vermilion border of the lips, palate and tongue (1, 8) .Usually diagnosis of SLE is performed by physicians but at least one case report exists about diagnosis of SLE by dentist (11).

This article, presents a case of SLE, in which the diagnosis was made based on oral manifestations. Despite a history of skin lesions and articular pain, the patient had received improper treatments and Oral Medicine Specialist could reveal the disease.

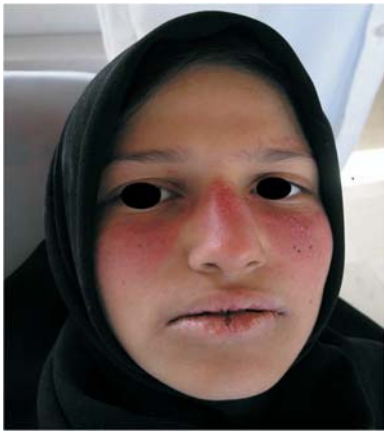
CASE REPORT

A 16-year-old female was referred to Oral Medicine Department of Mashhad Dental Faculty in OCT 2008. She complained of oral ulcers with three months duration. In review of systems, there was a history of transient artheralgia in knees, elbows and wrists in 6 months before initiation of oral manifestations.

Ibopruphen, calcium and vitamin D was prescribed for her by an internist, and partial relief was obtained after this therapy. There was also a history of hair loss. In extra oral examination, generalized erythema was seen on nasal bridge and malar region (Butterfly rash) with exfoliation of skin in some areas (Fig 1) accompanied by a thick crust on the lower vermilion border.

The patient noted exacerbation and exfoliation of Malar rash after sun exposure. She was advised to use sunscreen by a dermatologist and a few resolution was acquired.

Fig 1: Butterfly rash and exfoliation of cheeks and nasal bridge skin and lip crust.

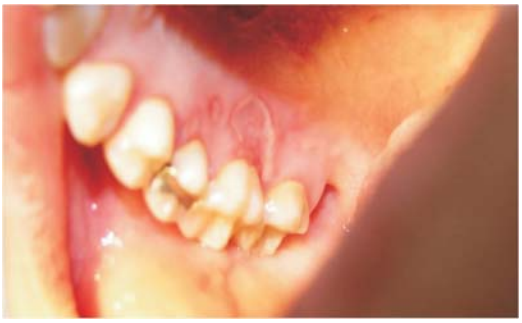


In intraoral examination multiple ulcers with different patterns were seen in several areas of oral mucosa such as palate, buccal region, gingiva and tounge.

Diffuse map like ulcers were present bilaterally on buccal aspects of mandibular attached gingiva (canine, premolar region) and palatal aspects of maxillary gingiva (premolar and molar region) (Fig 2)

Multiple small , clustered ulcers were observed in right lateral side of hard palate adjacent to first premolar and molar, involving an area of 1.5×1.5 cm diameter. there was no keratotic lesion with reticular pattern

Fig 2: A large deep ulcer of 1×3 cm diameter was present on marginal gingiva of first right permanent molar extending to hard palate.



(lichenoid reaction). SLE was considered as a possible clinical diagnosis by an oral medicine specialist due to chronic oral ulcers, butterfly rash and history of articular involvement. So, because all of these signs represent a systemic disease, there was no need for biopsy of oral lesions (especially when there was no evidence of lichenoid pathology). The Patient was referred to Rheumatology clinic for further diagnostic tests and appropriate therapy.

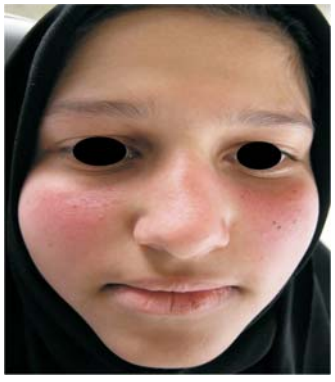
She was admitted to Imam Reza hospital with provisional diagnosis of SLE. Laboratory tests such as CBC, Rheumatoid factor, ANA (Antinuclear antibody), Anti ds (double strand) DNA, CRP (C-reactive protein) and ESR (Erythrocyte sedimentation Rate) and kidney function tests were ordered for the patient. The results included: positive ANA, Elevated ESR, Anti ds DNA>300, Hgb=9gr/dl and lymphopenia. CRP, RF and renal function tests were normal.

Our patient's condition satisfied Six criteria for a diagnosis of SLE: 1)Malar rash 2)Oral ulcers 3)Photosensitivity 4)Lymphopenia 5)Positive anti ds DNA 6)Positive ANA, so the diagnosis of SLE was confirmed.

The treatment was initiated by Prednisolone, Hydroxychloroquine, Calcium D, Cephteriaxon (due to uretral infection). After 2 weeks of flare up control, she was discharged with instructions to continue her prior medications. No topical treatment was needed for oral ulcers, due to rheumatologic clue.

After 48 days, the patient was examined in Oral Medicine Department. Malar rash was relatively faded out and there was no exfoliation.(Fig 3)The lip ulcers were

Fig 3: Significant improvement in Butterfly rash and lip crust



completely healed and a mild facial edema was evident (possibly due to corticosteroid therapy).

Nine months later (Aug 2009) the patients was admitted once more for ten days, with a complaint of extreme fatigue, arthralgia and myalgia . Oral ulcers were not evident in this visit. There was no lupus nephritis, avascular necrosis and cardiopathy. Appropriate treatment was administered for her by rheumatologist.

In October 2009 she was called and no complication was emerged.

DISCUSSION

Although this case represents an unusual diagnostic dilemma, but it seems that in Juvenile SLE(JSLE) ,this kind of error is not so rare(6) .In JSLE the presenting signs are protean and many of them are common complaints among adolescents.(e.g. fatigue , artheralgia),so inexperienced physician may fail to considered SLE in differential diagnosis of transient artheralgia and a facial rash in an adolescent female.

Children and adolescents have a more severe disease presentation (6) and develop severe organ damages more quickly. So early diagnosis and intervention is a crucial point to improve overall outcome of treatment. Our case had at least nine months diagnostic delay despite articular and cutaneous symptoms.

Tucker reported a summary of common presenting signs of JSLE with mucocutaneus ulceration as a relatively rare presenting signs in this age group.(6) He speculated that every adolescent who appear to have unexplained "un wellness" with vague symptoms of SLE should be further evaluated for diagnosis of this entity. It is more fundamental in a prone ethnic group (e.g. Asian adolescents)

Prevalence of oral manifestations of SLE has been reported as %7 to 87.5% (7,12) in different studies. The difference can be due to lack of diagnosis of SLE at the time of oral presentation or resolution of these findings after appropriate treatment (9).In one research on Venezuelan patients oral lesions were found in first two years after diagnosis (9) Oral ulcer was the main oral manifestation in our case. Rhodous has reported other oral findings such as xerostomia (%100 of cases), mucositis and glossitis (81/3%), glossodynia (87.5%) and angular cheilitis (87.5%), in evaluated patients(7) . the severity of these symptoms is compatible with disease flare up(7,13) although no significant changes in titers of c3,ANA or Anti ds DNA has been attributed by some authors(13) Lymphadenopathy and focal parotid necrosis (14) are another occasional findings in head and neck area.

Fernandes et al (10) attempted to address oral health an TMJ dysfunction in JSLE patients. They understood that JSLE patients had poor oral hygiene , higher incidence of gingivitis and TMJ dysfunction especially in those on long corticosteroid and immunosuppression treatments.

In our patient, because histopathologic examination of oral ulcers had no benefit and systemic involvement would lead to diagnosis, biopsy was not performed. There are other differentiated diagnoses for extra oral manifestations of this patient. Similar malar lesions can be seen in achne rosacea, seboreic dermatitis and achne vulgaris and some kinds of viral infections (15,6) Although other systemic signs are not compatible with these diagnoses. Other systemic diseases such as Behçet's syndrome and dermatomyositis were also mentioned for this case.

Absence of recurring oral and genital ulcers and presence of malar rash excluded Behçet's syndrome. Absence of muscular and pathognomonic skin involvement ruled out the diagnosis of dermatomyositis.

DLE was also included in differential diagnosis. But in DLE, the lesions are limited to skin and mucosa (with no systemic involvement) and oral involvement appears as lichenoid reactions in combination with skin discoid rash (a finding not observed in our case.) (16)

Immunologic findings also are of diagnostic criteria for SLE. Elevated Anti Nuclear Antibody (ANA) titer ($^{1}/_{40}$ or high) is the most

sensitive diagnostic criterion for SLE in serologic tests, and was positive in this case. Elevated ANA titers can be found in %99 of SLE patients; however, in early stage of disease, it can be negative. ANA is not an specific test for SLE since one study revealed elevated ANA titers in %32 of normal adults (5,16)

ANA is positive in other diseases such as Sjögren's syndrome (%68), sclerodermy (40-%75) and rheumatoid arthritis (25-50%) but lower titers and different immuno fluorescent pattern are observed in these cases.

Anti ds DNA survey has high specificity and low sensitivity for SLE and in JSLE is a prominent laboratory profile. In this patient it was increased. Although complement levels (C3, C4, C5) are normal in variable kinds of vasculitis, they are decreased in SLE, as a result of consumption. In inflammatory process in second administration (flare up) of this patient, C3 and C4 levels were low. SLE owns episodes of flare up and remission (2, 7) and decreased levels of complement is the sign of disease flare up. (17)

The aim of treatment for SLE in acute phase is management of acute attacks. And because of multiple organ involvement, treatment plan is based on clinical presentation. (1)

Management regimen in these patients include NSAIDS, corticosteroids, Anti malaria drugs and Immunosuppressants.(1) Prognosis depends on severity and extent of organ involvement and complications of treatment. poor prognostic factors are young age at onset, male gender, poor socioeconomic status and positive titers of antiphospholipid antibodies. (1) Since oral lesions respond well to systemic therapy, no additional treatment is necessary.

CONCLUSION

SLE is a systemic disease with multiple organ involvement and variable diagnostic features.

So one may be referred to a dentist with chronic oral ulcers, with an undiagnosed SLE. Importance of achieving a complete "review of systems" and accompanying signs must be kept in mind by general dentists to reveal an undetermined systemic condition.

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