

Oral Concerns in People With Lupus

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Introduction

Dr. Freedman, whose expertise is related to diseases involving the mouth, including autoimmune processes, presented a lecture on the effects of lupus and oral health. He began by informing the audience that there are three major categories of lesions that occur in the oral cavity of people with lupus:

- I. Direct Involvement of the Oral Cavity by Lesions of Lupus
- II. Sjogren's Syndrome
- III. The Oral Effects of Medications

I. Direct Involvement of the Oral Cavity by Lesions of Lupus in the Mouth

There are two types of these lesions:

1. those that do not correlate with active disease (more frequent)
2. those associated with active disease.

Therefore, the direct involvement of the oral cavity by lesions of lupus in the mouth may indicate active disease. The only way to reliably distinguish whether or not an oral lesion is associated with active disease is by means of a biopsy.

Oral lesions not associated with active disease occur in up to 40% of people with lupus and are usually a result of a reaction to a drug being used to treat lupus or another condition. They have a non-characteristic coloring of red or white - or both red and white - and are painless.

Oral lesions associated with active disease are usually red ulcers surrounded by a white halo and white radiating lines. These are the more typical "discoid" lesions and are only seen in people with active disease, and you should tell your physician as soon as you notice them. These types of lesions, which may or may not be painful, most often occur inside the cheeks, on the hard palate (roof of the mouth), and on the lower lip.

It is essential that you see your dentist and have an oral soft tissue exam regularly. This type of exam takes no longer than three minutes, and you should insist on receiving it during your routine cleaning. This way, your dentist can check for any lesions you may not even be aware you have (particularly if they are painless). Because the only way to reliably determine the true nature of oral lesions is to examine them under a microscope, you should—as mentioned earlier—get biopsies done for any lesions that your dentist may find.

Oral lesions may respond to treatment with topical or intralesional steroids, but antimalarial drugs may be necessary to treat resistant lesions. The control of active systemic disease will usually aid in the control of oral lesions, as well.

II. Sjogren's Syndrome (SS)

Sjogren's Syndrome is a chronic, systemic autoimmune disease that targets the salivary glands (in the mouth) and lacrimal glands (in the eye). The involvement of these two glands results in dry mouth and dry eyes (sicca complex). There are two forms of SS:

1. the primary disease, which occurs when you experience dry eyes and a dry mouth
2. the secondary disease, which occurs when you experience dry eyes, a dry mouth, and another associated autoimmune disease.

People who have both lupus and SS tend to exhibit fewer systemic manifestations, particularly kidney involvement.

SS occurs in approximately 1-3% of the general population, but 20-30% of people with lupus. It is a multifaceted syndrome that is difficult to diagnose, and as a result, SS commonly remains either undiagnosed or is diagnosed years after the onset of symptoms. Early recognition is pivotal to prevent this delay in diagnosis, enable appropriate evaluation, and optimize therapeutic intervention. SS may precede lupus by many years; however, it most often occurs late in the course of lupus.

There are several laboratory findings that can detect SS:

- Rheumatoid factor
- Anti-nuclear antibodies
- Hypergammaglobulinemia
- Elevated ESR
- Anti-Ro/ SSA and La/ SSB antibodies (60% of patients with SS) (These are antinuclear antibodies, each of which are directed against a different component of the cellular RNA. They are very common in SS and SLE but are also found in other autoimmune diseases.)

About one-third to one-half of people with SS will experience a painless enlargement of a major salivary gland, and this manifestation of the disease is usually bilateral (will occur on both sides). The destruction of the salivary glands by antibodies causes profound oral dryness (xerostomia), which is the most debilitating oral symptom. Loss of saliva results in the loss of the antibacterial and antifungal capacities of saliva. Saliva keeps the oral soft tissue moist and healthy, and buffers the oral environment, helping to neutralize acids that cause dental caries (cavities). Destruction of the salivary glands inhibits that buffering effect. This causes multiple consequences for oral health, such as susceptibility to caries (decay) and oral fungal infections.

A normal tongue is covered by numerous tiny bumps (papillae) - everyone has those - but be aware of any white, red, or otherwise discolored spots or lesions. Also, the incidence of a shiny, red tongue is abnormal. Another consequence of dry mouth is angular cheilitis, which is the occurrence of sores in the corners of your mouth. These sores are actually caused by a fungal infection and need to be treated with an anti-fungal medication (usually in the form of a topical

cream). It is important to note that there can be several other causes of angular cheilitis, such as iron deficiency and over closure of the mouth due to the loss of teeth.

There are several diagnostic tests used to detect SS in individuals.

The presence of dry eyes can be determined by:

- the Schermer test, which is an objective measurement of how many tears are produced
- the Rose Bengal dye test, which is the administration of a dye on the conjunctiva (the mucous membrane lining the outside of the eye), to check for scarring

To test for dry mouth you can:

- measure salivary flow rate (3cc or greater per five minutes is considered normal, and anything less usually indicates damage to salivary glands)
- sialography, which consists of injecting a dye in your salivary gland followed by an x-ray that will show the appearance of a “branchless fruit tree” if there is destruction
- take a biopsy of the salivary gland from the lower lip (Note: Dr. Freedman does not feel that the oral biopsy is always valid and does not suggest it for this purpose.)

SS cannot be cured, nor can the damage it causes be reversed, but it can be controlled. Dryness is treated symptomatically with sugar-free sialogogues (salivation stimulators like sugar-free gum or sucking candy), artificial saliva, and systematic pilocarpine or cevimeline, which are used to stimulate salivary flow. Treatment with systematic pilocarpine or cevimeline can have several side effects including sweating, urinary frequency, flushing, and gastrointestinal cramps. Additionally, topical antifungals are used to treat candidiasis.

Routine and preventative dental care and the use of fluoride treatments to prevent caries is crucial in people with SS; otherwise they may develop rampant decay requiring root canal therapy and crown placement on teeth. Patients who wear dentures may have difficulty keeping their dentures in place due to the poor suction caused by inadequate saliva. Dentures should be cleaned with 2% chlorhexidine (Peridex) and should not be worn overnight in order to prevent fungal infection. People with SS should try to avoid drugs that dry your mouth - such as anti-histamines, anti-depressants, and decongestants - when possible.

III. Oral Effects of Medications Used in the Treatment of Lupus

There are five common categories of drugs used to treat lupus:

1. NSAIDs and COX2 inhibitors
2. Antimalarial drugs—hydroxychloroquine or quinacrine
3. Corticosteroids—prednisone
4. Immunosuppressive drugs—azathioprine (Imuran), methotrexate, cyclophosphamide (Cytoxan), cyclosporine, mycophenolate mofetil (cellcept)
5. Rituximab (rituxan)

Each of these treatments has the potential to cause oral complications; therefore, such problems should not automatically be assumed to be a direct result of lupus. There are three main categories of reactions to drugs:

1. changes in pigment of the lining of the mouth

2. drug reaction to medication
3. opportunistic oral infection (affecting persons with a compromised immune system) secondary to effect of immunosuppressive medications

Alteration in pigmentation of the lining of the mouth is a common side effect of antimalarial drugs. It manifests itself as an increase in pigmentation, and its most commonly occurs on the palate.

The following drugs most commonly cause oral reaction: NSAIDs and COX-2 inhibitors, antimalarial drugs, calcium channel blockers, ACE inhibitors, cholesterol lowering agents, rituximab, and cyclosporine. These reactions to medication can be classified in four categories:

Erythema multiforme (also known as “Stevens-Johnson Syndrome”) can occur as a reaction to any of the drugs listed above. This is a serious drug reaction, and experienced in a full-blown state can even be life-threatening. Stevens-Johnson Syndrome is an explosive disease, which can develop overnight. It reveals itself as crusting of the lips (usually symmetrical) and as painful ulcerations of the gums, lips, cheeks, tongue. Swollen glands, fever, and genital lesions may also occur. You should contact a doctor as soon as you realize you are having this reaction, or go straight to the emergency room.

Lichenoid drug reactions can be caused by NSAIDs, COX2-inhibitors, antimalarial drugs, calcium channel blockers, ACE inhibitors, or cholesterol lowering agents.

Drug induced gingival hyperplasia can be caused by cyclosporine and calcium channel blockers. Angioedema of the lip can be a secondary reaction to ACE-inhibitors. ACE-inhibitors are used to treat hypertension. This reaction can also be a result of anti-seizure medications and immunosuppressants (such as calcium channel blocker). It is important to note that you are more susceptible to gingival hyperplasia when your mouth is not clean; therefore, it is very important to have good oral hygiene.

Tongue swelling and lip swelling (angioedema) can be caused by rituximab and ACE- inhibitors. Swelling of the tongue is dangerous because it can compromise the airway, whereas swelling of the lip is rather common and not dangerous. Steroids can help moderate both of these reactions.

An opportunistic oral infection can express itself as a secondary effect of immunosuppressive medications (such as azathioprine, Cytoxan, methotrexate, and cyclosporine) and corticosteroids (such as prednisone). This secondary effect only occurs when the body’s immune system is suppressed in such a way that usually harmless organisms cause problems. Anyone taking steroids is susceptible, and there are two ways in which this kind of infection can be expressed. Herpes simplex virus infection occurs in 80-90% of the general public. Most people are unaware that they are infected with Herpes, which is a lifetime infection. Secondary herpetic eruptions occur in 20% of those who have been infected and are most commonly seen as fever blisters, sun sores, etc. Candidiasis—a fungal infection—can develop secondary to dry mouth, diabetes, and dentures. You should see an oral pathologist (a specialist in dental and cavity diseases, i.e., not a regular dentist), internist, or dermatologist – as appropriate - to evaluate and treat these oral complications.

Concluding Remarks

In Dr. Freedman's opinion, preventive antibiotic medication before dental treatment to prevent bacterial endocarditis is essential, since approximately half the people with lupus have heart valve abnormalities. In this light, antibiotics should be taken before any dental treatment that can cause bleeding. This includes regular cleanings, scaling, periodontal procedures, dental implant placement, root canal treatment, and extractions.

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