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Systemic lupus erythematosus (SLE) is a chronic autoimmune disease characterized by periods that alternate between mild to severe symptoms. These cycles of relapses and remissions influence multiple organ systems. When people mention lupus, they are generally referring to SLE. “According to the Lupus Foundation of America, at least 1.5 million Americans are living with diagnosed lupus.” (Herndon, 2016). The exact etiology is unknown but they are associated with several factors that include genetics, environment and hormones. Although SLE has not been correlated with a specific gene, most diagnosed individuals have immediate family members suffering from other autoimmune conditions. Environmental factors include ultraviolet rays, certain types of medications, virus, physical or emotional stress and trauma. Since most people affected with lupus are African American and Asian females, ages 15 to 44, they believe it could be associated with the hormone, estrogen. According to Haase (2019), peak incidence rate occur at the age of 30 and 50.

Everyone diagnosed with SLE experience joint pain and swelling that may develop as arthritis. Other common symptoms include severe fatigue, chest pain while taking deep breaths, fever without cause, malaise, headaches, hair loss, weight loss, anemia, blood-clotting problems and sensitivity to light. Additional symptoms coincide with the effective organ including the brain, digestive tract, heart, lung, kidney and skin. Clinically, SLE can portray with a rash on the cheeks and nose known as the butterfly rash, subacute cutaneous rash, livedo reticularis and

bullous. It is also associated with Raynaud's Syndrome, in which the fingertips turn whitish-blue and has a tingling sensation when cold. Mucous membrane ulcers can be found in the oral cavity.

SLE cannot be diagnosed with one particular exam. One significant diagnosis is a blood test for antinuclear antibody (ANA). Almost everyone with lupus test positive for ANA; however, that is not a definite determining indicator of SLE. Additionally, CBC differential, chest radiograph, serum creatinine and urinalysis are performed. Like most autoimmune diseases, there is no cure for lupus but symptoms are managed with medication.

“Anti-inflammatory medications can relieve joint pain and stiffness, steroid creams for rashes, corticosteroids to minimize the immune response, antimalarial drugs for skin and joint problems, disease modifying drugs or targeted immune system agents for more severe cases.” (Herndon, 2016).

Since diagnosis for SLE is not always clear it can be confused with other diseases and particularly syndromes. For instance, the antiphospholipid syndrome and SLE both display recurrent thrombosis and miscarriages. Individuals with SLE have lupus anticoagulant (LA), caused by antiphospholipid antibodies (aPL). That antibody along with thrombosis and miscarriage are critical diagnosis for antiphospholipid syndrome (APS). However, SLE affects the connective tissue which arises a notation that APS can exist as an independent syndrome. They are different genetically, serologically and with T-cells. “Aberrant T cell activation pathways in SLE plays a critical role in addition to the tissue damage mediated by immune complex deposition....In contrast, APS is a well-characterized autoantibody-mediated disease but few studies have addressed T cell response against the main APS autoantigens” (Luigi Meroni,

2019). In other words, T-cells play a more critical role in lupus compared to antiphospholipid syndrome.

As dental hygienists, we play a small but vital role in our patient's lives. We know very well how the oral health is a great indicator for an individual's overall health. We are not just educators and advisors but we are also screeners. Many diseases have oral manifestations and with our education we are able to differentiate what is abnormal and what is within normal limits. For lupus, this includes oral ulcers, rashes, whitening of the fingertips and other symptoms mentioned previously. Extra oral and intraoral examination can save someone's life; we can save someone's life!

## References

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