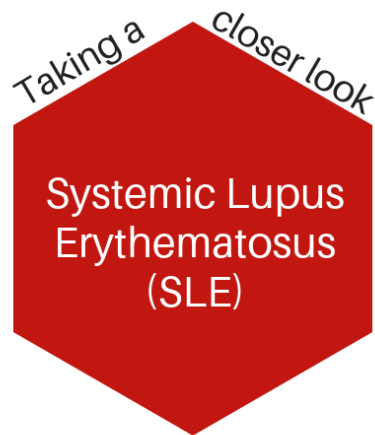


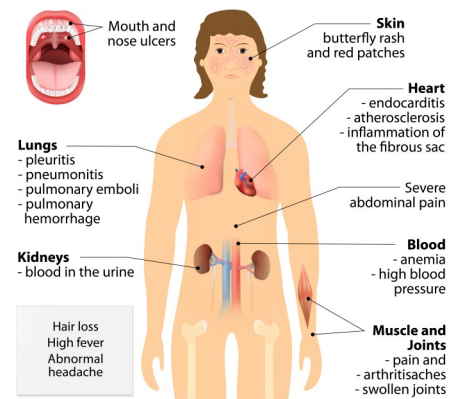
The Bench and Beyond



Systemic Lupus Erythematosus (SLE) is an autoimmune disorder. That means that the immune system attacks the body's own tissue by accident. The immune system is like the armed forces. It is made up of different parts, and like the Air Force, Navy, Army and the Marines, these parts work together to protect us. However, occasionally there are accidents and some of our own troops get hurt. Similarly, the immune system sometimes destroys part of its own body. SLE is a particularly complicated autoimmune disease in that more than one tissue is destroyed. The tissues targeted are skin, joints, kidney, brain, blood, heart and lungs. Symptoms include fatigue, rash, high temperature, and joint pain. A rash on the nose and cheeks in the shape of a butterfly is a classical sign of SLE.

How does SLE begin? In healthy people, a small amount of cell death is normal. Cells die and are replaced as part of an ongoing growth and repair mechanism. Sometimes, for reasons that are not clear, cell death is exaggerated and the resulting debris is not cleared efficiently by the body's normal clean-up mechanisms. In such cases, bits from the inside of cells, including DNA and other parts of the nucleus, are mistakenly recognized by immune cells as pathogens, like viruses and bacteria. So begins a destructive cascade of events that results in the production by immune B cells of large amounts of proteins called immunoglobulins. Immunoglobulins bind to DNA and other nuclear proteins and together they form complexes called, immune complexes. The immune complexes deposit themselves in the skin, joints, kidney, brain and lungs causing inflammation and tissue damage.

Systemic lupus erythematosus



Lupus research at SDBRI: Dr. Marilyn Diaz and her research team have developed a type of immunoglobulin that can protect against kidney damage in an experimental model of SLE. In some respects this is counterintuitive because immunoglobulins can cause SLE. This highlights how complex this disease is. At SDBRI research in the Diaz laboratory is focused on experiments to test whether similar types of protective immunoglobulins can be developed into a drug for human SLE.

Frequently Asked Questions!

How is SLE treated? There is no cure for SLE. However, there are several drugs in use that suppress the immune system and reduce inflammation. The type of medication depends on several factors including whether symptoms have flared (flares) or subsided. An additional therapeutic approach is to target the symptoms. The goal is to improve quality of life.

What causes SLE? Inappropriate and exaggerated cell death in the absence of an efficient mechanism to remove the dead and dying cells. What we don't know is why too many cells die and why they are not cleared.

Is Lupus one disease? SLE is one of 4 different types of lupus. The S stands for Systemic, which means that the disease affects multiple sites in the body. Cutaneous Lupus is a type that affects the skin only. Some medications can cause lupus. Medication-induced lupus is called Drug-Induced Lupus. In rare occasions, antibodies transfer from the mother to the fetus and cause a newborn baby to temporarily have a rash and low blood cell counts. This type of lupus is called Neonatal Lupus.

How common is SLE? According to the Lupus Foundation of America, more than 5 million people in the world have lupus. Women are more susceptible to SLE than men. Diagnosis is usually between the ages of 15 and 45 years, although children and older people can also develop SLE.






Next Issue:

Taking a closer look at HIV vaccine development

Location

10865 Road to the Cure
Suite 100
San Diego, CA 92121

Follow Us!

 SDbiomed
 @sd_biomedical
 @sandiegobiomed

GIVING EVERY PATIENT A FIGHTING CHANCE

Email: info@sdbri.org, Phone: (858) 200-7156, Website: www.sdbri.org