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|  | **Causes vs. Triggers of Systematic Lupus:**  When dealing with SLE, it is important to acknowledge the difference between a cause and a trigger of Lupus, as many people often confuse the two. A cause is the created potential for a person to have a disease where a trigger is something that brings out symptoms, or a factor that causes the symptoms to manifest. These factors are not causes and can be related to genetics, and histocompatibility genes (responsible for the immune response). There is not one accepted theory of a cause because Lupus is multi-factoral so it is almost impossible to pinpoint one cause. There are many theories to the cause of Lupus. One is that since it resembles a chronic infection, it is really an infectious disease that results from a virus or other agent. The most commonly accepted theory of the cause of SLE is that it is a combination of genetic susceptibility and environmental factors. Doctors know that Lupus involves the immune system, but no one is sure exactly what goes wrong, so there are also many theories about what causes the actual malfunction of the immune system. The first is defective suppressor cell function, the cells that hold the immune system in check. A second is that the gene in mammals, called the fas gene in mice, is defective. Finally when an immune system develops cells that show autoreactivity (react with own cells and tissues destroyed by mother nature before birth) and the fas gene regulates cell death (called apoptosis) so the gene does not regulate necessary cell death so autoreactive cells live and increase the activity of the immune system.  Lupus actually results in alternations of the immune system regulation that cause the body to become sensitive to its own tissue. There are many different factors suspected to cause Lupus which include:  **Potential Causes of Lupus:**  1. **Environmental:** UV lights, drugs, or chemicals acting like antigens, or that introduce new antigens  2. **Abnormal B Lymphocytes:**  One third of the white blood cells are lymphocytes (B and T cells) and when the B are overactive, too many autoantibodies and immunoglobin are produced  3. **Abnormal T Lymphocytes:** These are the "memory cells", they remember what is foreign. In SLE, there is an increase of the helper function that promotes and immune response, and a decreased suppressor function which suppresses and immune response so there is an alternation of lymphocytes that promote autoantibody formation and an increase in B-cell responses.  4. **Genetics:** Although Lupus is not a genetic disorder, most doctors believe there is a predisposal gene that is inherited called the major histocompatibility complex (MHC) that includes the human leukocyte antigen (HLA). Even though it is not genetic, there is some evidence that it is somewhat inherited as relatives have a 5:12 greater chance of having SLE. The human genome project, which is a project dedicated to mapping the entire human genetic code, has isolated chromosome number six as the immune response chromosome so there is question as to if part of the sixth chromosome is missing, if people can get SLE. A new study shows that the first chromosome might also be related. It is not a totally genetic disease though, as proven in Dr. Lahita�s book, *Lupus: Everything you Need to Know,* because in the case of identical twins, who have an identical genetic make-up, one might have it and the other only has a 25% chance of developing the disease. Also, no family history is needed for a person to get SLE, but usually a patient�s family has other autoimmune diseases such as rheumatoid arthritis, low platelet disorder, anemia, or Sjogren�s Syndrome (lack of tears, saliva, and other glandular secretions.) Scientists have still not isolated a Lupus gene, but have found certain genetic markers and other non-HLA genes that correlate with specific Lupus subsets and autoantibodies.  There are also certain factors that have been known to trigger the disease, or increase disease activity in SLE. Some of these have an organic effect where the tissues of the brain are involved and others have a functional effect, which is strictly behavioral or psychological.  **Potential Triggers of Lupus and Lupus Flares (Periods of increased disease activity):**  1. **Chemical Factors:** aromicamines (hair dye and hydrazines such as cigarette smoke), tartiazines such as food coloring or preservatives, which are broken down by acetylation, silica and silicone, polyvinylchloride, trichloroethylene, cocaine, appetite suppressant amphetamines, altered cooking oil, and metals such as gold, chloride, and cadmium.  2. **Mycoplasms and retroviruses:** Mycoplasms are bacteria with no cell wall and retroviruses are viruses that rapidly invade the healthy cells of the body  3. **Hormones:** Many doctors believe this is why the disease is more prevalent in woman, because the female hormone of estrogen stimulates immune activity while the male hormone androgen suppresses activity.  4. **Fatigue/Stress:** Not only is fatigue a symptom of Lupus, but it is also a trigger so people who are susceptible to the disease should never over exacerbate themselves and always get atleast eight hours of sleep a night  5. **Sunlight:** It is not known why sunlight aggravates SLE, but heavy exposure to the sun not only causes external skin rashes, but also stimulates the immune system and triggers the onset of the disease  6. **Allergies:** For reasons unknown, allergies seem to be more prevalent in Lupus patients and reactions should be avoided as they can trigger Lupus  7. **Pregnancy/Abortion:** SLE usually occurs most during pregnancy because large amounts of female hormone, such as estrogen, are being produced which can cause the onset of the disease  8. **Surgical Procedures:** Surgical procedures can also stimulate the immune system and cause SLE to show up  9. **Drugs:** As mentioned before, in drug-induced lupus, certain drugs such as sulfa drugs and Birth control pills can cause an onset of Lupus  10. **Foods:** Not only can certain foods be used in the treatment of Lupus, but some can actually aggravate the disease. A list of foods that should be avoided includes: alfalfa sprouts, tablets, and tea that contain an immune system simulating compound called canavanine that can trigger lupus flares. Also, they are high is arginine, which has been reported to induce lupus. Avoid cured meats and hot dogs which contain compounds that many also trigger lupus flares. Avoid mushrooms and beans which both contain hydrazines and amines compounds that can aggravate symptoms in people with lupus and cause flares. Nightshade foods and products are high in solanine, a trisaccharide acting as a natural pesticide. Some nightshade foods include tomatoes, eggplant, white potatoes, tobacco, and all peppers except black pepper. Some other foods that have been reported to act with antibodies and cause lupus flares are: milk (lactose), mushrooms, caffeine, aspartine, chocolate, soybeans, corn, spinach, carrots, celery, parsley, figs, citrus fruit, zucchini, and olive oil. Not all of these foods need to be totally avoided in all people with Lupus, as everyone reacts differently, but they should be consumed in moderation. Also, a person�s diet should be low in saturated fat as it can contribute to inflammation and promote heart disease.  11. **Herbs:** In systematic Lupus, the immune system is already hyperactive so it is important not to further stimulate it with herbs and other immune boosters. Some herbs to avoid, according to Medakate, that stimulate the immune system and its component cells are Echinacea, Larch, Astragalus, Shiitake, Maitake, Reishi, Ginseng, Lomatium, Hydrasits, Oregon Grape, and Ligusticum. Herbs can also counteract prescriptions and anesthesia during surgery.  All of these things in the lists above have been found to have some correlation to the onset of SLE. However, they are not written in stone and the lists are often added to and changed due to the fact that Lupus symptoms are ever changing and unpredictable. People experience flares, sudden change in disease activity and new symptoms, which often leads to exacerbation, days and weeks of flare periods, often for reasons they can not explain. The goal of compiling lists like these is to prevent Lupus patients from experiencing flares, or to cause a remission period of disease-free activity, or to stop Lupus from showing up in healthy people. These are not cures or treatments for Lupus, just guidelines to live a healthier and hopefully Lupus-free life, however unfortunately there are no guarantees. The goal of my survey was to identify some possible triggers or factors that can contribute to the onset of Lupus and to flares in people who already have the disease.  ([Next)](http://docs.google.com/intro6.html) | |
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