Systemic Lupus Erythematosus

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Introduction

My chosen research topic in systemic lupus erythematosus (SLE) was chosen because it is a disease that affects so many and that my physicians have been unable to explain using the currently known disease and health care. I researched the disease, and I learned that there are various signs and symptoms that may be associated with SLE.

Signs and Symptoms

- Common first presenting symptoms are nonspecific, and include fatigue, fever, weight loss, rash, and joint pain. The cause of these symptoms can be difficult to pinpoint (Lam, Ghetu, & Bieniek, 2016).
- Other common observable symptoms include arthritis, pleurisy, urticaria, and photosensitivity (Robinson, Sheets Cook, & Carrie, 2011).
- The most well-known signs of SLE is a rash, either “butterfly rash” over the cheeks and nose (Robinson, Sheets Cook, & Carrie, 2011), although this is not seen in all patients.
- Patients can have multiple organ systems affected, and therefore destructed. Common target organs of SLE are the kidneys, joints, skin, and brain (Moulton & Tsokos, 2015). Depending on the organ system affected, SLE can also affect critical organs and affect the patient's quality of life (Robinson, Sheets Cook, & Carrie, 2011).
- Patients should be educated continuously, and offer support as the disease progresses (Lam, Ghetu, & Bieniek, 2016).
- Care for patients with SLE can involve providers of different specialties, depending on the organ/systems that are involved.

Diagnosis

- SLE can be extremely difficult to diagnose, due to the variety of symptoms/presentations of the disease, as well as the many different criteria and complaints used to aid in diagnosing (Lam, Ghetu, & Bieniek, 2016).
- The etiology of SLE is very complex. The average time from initial presentation to confirmed diagnosis is over 10 years (Weinstein, 2012).
- Due to the complexity of the disease, The American College of Rheumatology (ACR) has formulated 11 diagnostic criteria for SLE. A patient meets at least 4 of the criteria, a diagnosis of SLE can typically be made. The criteria are made or do not rash, photosensitivity, oral ulcers, arthritis, serositis, abnormal ANA titer, and renal, vascular, hemolytic, and immune-complex disease and complement (Lam, Ghetu, & Bieniek, 2016).
- Laboratory criteria that can help in diagnosing a patient can include ANA, CRP, C3, CM, complement C9, creatinine, complement, complement and autoantibodies (Confe & Gilek-Sobert, 2016).

Pathophysiology

- SLE is characterized by abnormal immune cell activation (Moulon & Tsokos, 2015).
- The role of providers is to understand the manifestations of SLE to accompany early diagnosis, treating and monitoring disease progression to refer to specialists as needed (Lam, Ghetu, & Bieniek, 2016).
- Additionally, a goal is to make the diagnosis of SLE, and achieve the complement system, clotting cascade, and proteasome suppression (Turano, 2013).
- An imbalance of pro and anti-inflammatory cytokines and proteins, which alters B and T cells signaling pathways. Some examples include interleukins, interferons, and tumor necrosis factor (Connolly & Flah ener, 2012).
- Interleukin 2 (IL-2) is decreased, which causes abnormal T cell activation. This leads to decreased activated-induced apoptosis of these defective T cells, which is necessary to delete autoreactive cells (Moulon & Tsokos, 2015).
- T cells, which control peripheral immune response, are decreased in patients with SLE (Moulon & Tsokos, 2015).
- It is important for providers to try to understand what may trigger a specific patient’s flare, with the goal being to prevent and predict them (Fernandes & Knipe, 2015).

Nursing Implications

- It is crucial for providers to understand the complexity of the disease and its course, in order to best provide for these patients.
- Additional research and studies are needed so that providers and patients can better understand the disease and how to manage it.

Significance of Pathophysiology

- The pathophysiology of SLE affects many body systems. There are now different classifications for the disease (Confe & Gilek-Sobert, 2016).
- Environmental factors may assist with triggering SLE. This includes exposure to SLE’s light and certain infections. These factors may have cytotoxic effects, and may start the inflammatory process (Fernande & Knipe, 2015).
- SLE is a chronic disease, and by understanding about these types of exposures, a chronic disease can be better isolated and diagnosed.

- Because of the alterations of the immune and active immune responses, infections are common and can be life-threatening in these patients. Infection is the most common cause of morbidity and mortality for those with SLE (Bosley, Agwal, Baur, & Fest, 2016).
- The inflammatory process of SLE is parallel to the mechanisms that form autoimmune diseases.
-Autoimmune diseases to endothelial cells, which contribute to the vascular wall lesions, are often present in patients with SLE. These are some of the reasons that patients with SLE are at a higher risk of cardiovascular disease than the general population (Turano, 2013).
- Medical treatment for SLE often includes NSAIDS, antiinflammatory drugs, and corticosteroids (Turano, 2013).

Conclusions

- SLE is an unpredictable, complex, and often debilitating disease.
- Many complications can arise from SLE, due to its effects on the body on many different levels. Providers who treat and manage this disease must also be prepared to encounter other diseases and medical problems, and be constantly monitoring for these potential complications.

References

ACR Diagnostic Criteria Image: https://www.rheumatology.org/Portals/0/ACR%20Criteria%20Image.jpg
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