IMMUNOSUPPRESSANT DRUGS

The Effects of Slowing Down the Immune System

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Immunosuppressant medications help prevent organ rejection in transplants and reduce inflammation and autoantibody production in patients with autoimmune disorders.

What are Immunosuppressants?

Immunosuppressant medications, which are also known as immunosuppressive medications, are a group of drugs that suppress or slow down the immune system. Immunosuppressant drugs are used to prevent the body from rejecting transplanted organs or tissues and to slow down the immune response in people with certain autoimmune disorders. In the treatment of autoimmune disorders, immunosuppressants are often used in combination with corticosteroids as corticosteroid-sparing agents in an effort to reduce the dose of corticosteroids and minimize side effects associated with high dose corticosteroids.

Immunosuppressants in Autoimmune Disease

Besides corticosteroids, the immunosuppressant medications most often used in patients with autoimmune diseases include:

- Azathioprine (Imuran), which is primarily used in autoimmune hepatitis and rheumatoid arthritis.
- Cyclophosphamide (Cytoxan), which is primarily used in systemic lupus erythematosus, autoimmune hemolytic anemia, Wegener’s granulomatosis, and other forms of vasculitis.
- Cyclosporine (Sandimmune, Neoral) is primarily used in psoriasis, rheumatoid arthritis, multiple sclerosis, diabetes, myasthenia gravis, and scleroderma.
- Glatiramer acetate (Copaxone) is primarily used in treatment of relapsing-remitting multiple sclerosis.
- Methotrexate is primarily used in rheumatoid arthritis and other connective tissue disorders
- Mycophenolate mofetil (CellCept) is used in scleroderma and systemic lupus erythematosus.
- Sirolimus (Rapamune) is used for the treatment of psoriasis.

Precautions and Side Effects

Blood tests are used to evaluate any blood cell disorders or biochemical changes, for instance in liver or kidney function that may occur as a result of immunosuppressant
medications. Side effects related to immunosuppressants include high blood pressure, kidney problems, liver problems, and susceptibility to infection. Signs of infection, such as fever, chills, and lower back pain should be reported immediately.

People on immunosuppressant medications should avoid contact with people who have infections and they should avoid vaccinations unless directed by their physicians. People taking immunosuppressant medications should also avoid contact with anyone who has taken the oral polio vaccine because there is a possibility that the polio virus could be transmitted to them. People residing in the home of someone on immunosuppressants should avoid taking the oral polio vaccine.

Immunosuppressant medications can also cause dental problems, including tender, swollen, and bleeding gums. A dentist should be consulted if these problems occur.

Immunosuppressants may cause light sensitivity and severe reactions upon exposure to sunlight, increasing the risk for skin cancer in people using long-term immunosuppressant medications. The risk of cancer increases in people on immunosuppressants, especially in patients who are on other medications that suppress the immune system including corticosteroids, chlorambucil, cyclophosphamide, and mercaptopurine. Normally, the immune system protects us from cancer and infection by removing mutated and infected cells. When the immune system is suppressed, the risk for cancer and infection increases.

In Pregnancy

Immunosuppressant medications should not be used during pregnancy because they may cause birth defects. They should also not be used by male or female partners around the time of conception. Breastfeeding is also not recommended for women on immunosuppressant medications.

Other Medical Conditions

People with certain medical conditions may have problems when taking immunosuppressant medications. These include people with shingles and people who have recently been exposed to chickenpox; people with kidney or liver disease; people with malabsorption problems who may have difficulty absorbing oral immunosuppressant medications.

Drug Interactions

The drug allopurinol used for gout may enhance the effects of azathioprine, Estrogens, androgens, cimetidine, erythromycin, and ketoconazole may increase the effects of cyclosporine. The risk of cancer increases in people on immunosuppressants who are on other medications that suppress the immune system including corticosteroids, chlorambucil, cyclophosphamide, and mercaptopurine.

Resources:


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