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FARMACIA PRACTIA LETTRE
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NEWSLETTER FROM THE DEPARTMENT OF PHARMACY PRACTICE

Principal's Message

It gives me immense pleasure that our department of pharmacy practice, Sri Venkateswara College of Pharmacy is releasing its newsletter. The clinical pharmacy activity of our pharmacy practice department has gained strength in the last couple of years with the start of the Pharm.D program and our faculty and students are involved in patient services activities in clinical departments of RVS hospitals, a tertiary care super specialty hospital. It is indeed a matter of great pride and pleasure to share some of our experiences in patient care with every one of you. Practice directions and other documents will be drafted and approved with the assistance of the standards of practice committee. The mandate of the college is to train high-caliberhealthcare professionals, offer specialized pharma services to the community, conduct research, offer consultancy services, and participate in health policy formulation. The college has adequate modern facilities to execute its mandate. The faculty and student editorial team deserve special appreciation and offer this newsletter to our beloved chairman and vice chairman.

Dr. D. Jothieswari, Principal,
Sri Venkateswara College of Pharmacy

IN THE CURRENT ISSUE

- **Drug profile**
- **Disease based information**

DRUG PROFILE
ALEMTUZUMAB

Alemtuzumab is a monoclonal antibody used in the treatment of certain types of blood cancers and autoimmune diseases. It targets the CD52 antigen, which is present on the surface of mature lymphocytes. It was originally approved for treating B-cell chronic lymphocytic leukemia (B-CLL) and is also used for multiple sclerosis (MS).

Uses

• Chronic Lymphocytic Leukemia (CLL): Alemtuzumab is used in patients with B-cell CLL, particularly when other treatments have failed.

Mechanism of Action

Alemtuzumab binds to the CD52 antigen on the surface of B and T lymphocytes, monocytes, macrophages, and some granulocytes. This binding induces antibody-dependent cellular cytolysis and complement-mediated lysis of the targeted cells. By depleting lymphocytes, alemtuzumab reduces the immune response, which is beneficial in conditions like MS and CLL.

Adverse Drug Reactions

• Infusion-related reactions (fever, chills, rash, hypotension)
• Infections (due to immunosuppression)
• Fatigue
• Nausea

Dosing Considerations

1. Chronic Lymphocytic Leukemia

Initial Dose:3 mg IV infusion daily until infusion reactions are controlled (typically 3 days).

Subsequent Dose: 30 mg IV infusion three times weekly (on alternate days) for up to 12 weeks.

Limitations of Use:

• Multiple Sclerosis: Due to its potential for causing serious adverse effects, alemtuzumab is generally reserved for patients with MS who have had an inadequate response to two or more drugs indicated for the treatment of MS.

DISEASE-BASED INFORMATIONNEUROBLASTOMA

Gaucher Disease

Introduction

Gaucher disease is a rare inherited metabolic disorder characterized by the accumulation of a fatty substance called glucocerebroside in various organs and tissues. This accumulation occurs due to a deficiency in the enzyme glucocerebrosidase, which is essential for breaking down this fatty substance. The disease is named after the French physician Philippe Gaucher, who first described it in 1882.

Causes

Gaucher disease is caused by mutations in the GBA gene, which encodes the enzyme glucocerebrosidase. When this enzyme is deficient or dysfunctional, glucocerebroside accumulates inside lysosomes (the recycling centers of cells), particularly within macrophages. These engorged cells, known as Gaucher cells, build up in organs such as the spleen, liver, and bone marrow, leading to the various symptoms of the disease.

Types

Gaucher disease is classified into three main types based on the presence and severity of neurological involvement:

Type 1 (Non-neuronopathic): This is the most common form, accounting for about 90% of cases. It primarily affects the liver, spleen, and bone marrow, but does not involve the central nervous system.

Type 2 (Acute neuronopathic): This form presents in infancy and is characterized by severe neurological symptoms, leading to early death, usually within the first few years of life.

Type 3 (Chronic neuronopathic): This form can present at any age and includes neurological symptoms that progress more slowly compared to Type 2 patients who may survive into adulthood.

Signs and Symptoms

The symptoms of Gaucher disease vary widely depending on the type and severity:

Type 1:

• Hepatosplenomegaly (enlargement of the liver and spleen)

• Anemia and fatigue

• Thrombocytopenia (low platelet count), leading to easy bruising and bleeding

Type 2 and Type 3:

- Severe neurological symptoms such as seizures, muscle rigidity, and developmental delay
- Abnormal eye movements
- Swallowing difficulties and breathing problems in severe cases

Diagnosis

Diagnosis of Gaucher disease involves several steps:

Enzyme Assay: Measuring the activity of glucocerebrosidase in leukocytes (white blood cells) or fibroblasts. Reduced enzyme activity confirms the diagnosis.

Genetic Testing: Identifying mutations in the GBA gene can confirm the diagnosis and help distinguish between different types of Gaucher disease.

Imaging Studies: MRI or CT scans can assess the extent of organ enlargement and bone involvement.

Treatment

Treatment for Gaucher disease aims to reduce the symptoms and improve quality of life. Options include:

Enzyme Replacement Therapy (ERT): Intravenous infusions of recombinant glucocerebrosidase (such as imiglucerase, velaglucerase alfa, or taliglucerase alfa) can effectively reduce organ size, improve blood counts, and alleviate bone pain.

Substrate Reduction Therapy (SRT): Oral medications (such as eliglustat and miglustat) reduce the production of glucocerebroside. SRT is typically used in patients who cannot receive ERT or as an adjunct therapy.

Prognosis

The prognosis for individuals with Gaucher disease varies widely based on the type and severity of the disease. Type 1 patients often have a normal life expectancy with appropriate treatment. However, Types 2 and 3 are more severe, with Type 2 being particularly life-limiting. Early diagnosis and ongoing management are crucial for improving outcomes and quality of life for patients with Gaucher disease.Suggestions and comments may kindly be sent to the Editorial Board, Department of Pharmacy Practice, SVCOP, Chittoor.

Suggestions and comments may kindly be sent to the Editorial Board, Department of Pharmacy Practice, SVCOP, Chittoor.Phone: 7729999181Email:editorsvcopnewsletter@svcop.in