SRI VENKATESWARA COLLEGE OF PHARMACY (Autonomous)

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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

Common Adverse Reactions

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

Serious Adverse Reactions

• Autoimmune conditions (thyroid disorders, immune thrombocytopenia, nephropathies)
• Severe infections (opportunistic infections like cytomegalovirus, listeria, and herpes)

Dosing Considerations

Chronic Lymphocytic Leukemia:

Initial Dose:3

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

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

Neuroblastoma is a type of pediatric cancer that develops in the nervous system of babies and young children. Neuroblastoma grows in immature nerve tissue (neuroblasts).It usually affects neuroblasts in the adrenal glands (small organs that sit on top of the kidneys). The adrenal glands make hormones that control automatic body functions, such as digestion, blood pressure, breathing, and heart rate. Neuroblastoma can also develop in nerve tissue in the spinal cord, abdomen, chest, or neck.

CAUSES

Neuroblastoma happens when immature nerve tissues (neuroblasts) grow out of control. The cells become abnormal and continue growing and dividing, forming a tumor. A genetic mutation (a change in the neuroblast's genes) causes the cells to grow and divide uncontrollably. Healthcare providers aren't sure what causes the genetic mutation.Children with a family history of neuroblastoma are more likely to develop this type of cancer. But about 98% to 99% of the time, neuroblastoma is not inherited (or, passed down in families). Children born with other congenital anomalies (birth defects) may have a higher risk of developing neuroblastoma.

Signs and symptoms

- Abdominal pain
- A mass under the skin that isn't tender when touched
- Changes in bowel habits, such as diarrhea or constipation.
- Wheezing
- Chest pain
- Changes to the eyes, including drooping eyelids and unequal pupil size.
- Lumps of tissue under the skin
- Eyeballs that seem to protrude from the sockets (proptosis)
- Dark circles, similar to bruises, around the eyes
- Back pain

Diagnosis

Diagnostic Tests and Imaging Tests for Neuroblastoma

1. Clinical Evaluation

- Medical history and Physical examination

2. Laboratory Tests

- Urine catecholamines
- Blood tests

3. Imaging Tests

- X-ray
- Ultrasound
- Computed Tomography (CT) Scan
- Magnetic Resonance Imaging (MRI)
- Metaiodobenzylguanidine (MIBG) Scintigraphy
- Positron Emission Tomography (PET) Scan
- Bone Scan

4. Bone Marrow Aspiration and Biopsy

- Bone marrow aspiration
- Bone marrow biopsy

Treatment

- There are different types of treatment for patients with neuroblastoma.
- Seven types of standard treatment are used.

Radiation therapy

Iodine 131-MIBG therapy

Chemotherapy

Isotretinoin

Dinutuximab

Granulocyte-macrophage colony-stimulating factor (GM-CSF)

Interleukin-2 (IL-2)

Targeted therapy

Monoclonal antibody therapy

Tyrosinekinase inhibitor therapy

Histone deacetylase inhibitor therapy

Ornithine decarboxylase inhibitor therapy

Immunotherapy

CAR T-cell therapy: The patient's T cells (a type of immune system cell) are changed so that they will attack certain proteins on the surface of cancer cells.

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