



**St. Peter's
Institute of
Pharmaceutical Sciences**

#s2-4-1211, Vidyannagar, Hanamkonda, Telangana
-506001 India

Website: www.stpeters.co.in,

Email : spipswgl@gmail.com

NEWS LETTER OF CLINICAL PHARMACY

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Chairman : Shri.T.Jayapal Reddy

Principal : Dr.P.Rajasheker

Head of the Department: Dr.D.Praveen

Editor : Manusri Naredla

Vision

St.Peter's is committed to generate, disseminate and preserve knowledge and work with pioneers of this knowledge, and to be the most sought after institute globally in the field of pharmaceutical sciences by creating world class pharmacy professionals and researchers.

Mission

To achieve academic excellence with integrity and creating opportunities for leadership and responsibilities through groundbreaking performance in the field of Pharmaceutical Sciences by educating students with pharmaceutical needs of the society and to advance the knowledge through research and to serve the profession and community.



INFORMATION ABOUT COVID-19 (APRIL TO JUNE ,2021)

COVID-19 is a disease which is caused by a new coronavirus called SARS-CoV-2 .During **April**, new COVID-19 cases rose for a 6th consecutive week and deaths are also increased by 11% globally. The COVID-19 subcommittee of the WHO Global Advisory Committee on Vaccine

Safety (**GACVS**) has reviewed reports of blood clots with low platelets following vaccination with the **AstraZenica COVID-19**, but it is yet to be confirmed.

In **May**, Central Council for Research in Ayurvedic Sciences developed a formulation called **AYUSH 64**, which is found to be useful in treatment of COVID-19 infection. WHO's Emergency Use Listing (EUL) assesses the quality, safety, and efficacy of **Moderna COVID-19** vaccine. DCGI has approved 2nd and 3rd phases of clinical trials of **COVAXIN** in the age group of 2-18 years. Black fungus cases have been reported. Hence to prevent spread of this fungus, the production of **Amphotericin-B**, an anti-fungal drug has to be increased. GACVS issued a statement on safety signals related to the **Johnson & Johnson/ Janssen COVID-19** vaccine.

During the month of **June**, National Environmental Engineering Research Institute (**NEERI**), Nagpur has developed a Gargle RT-PCR Method for testing COVID-19 samples. Clinical trials have been initiated for the drugs **Niclosamide** and **Colchicine** for the treatment of COVID-19. WHO issued updated recommendations for use of **Pfizer-BioNTech, Moderna and Janssen** vaccines against COVID-19. Transmission of delta plus variant is very rapid.

FDA APPROVED DRUG LIST (APRIL TO JUNE 2021)

Drug name	Approval date	Company name	Category	Indications	Mechanism of action	Precautions	Complications
Aleve (Naproxen sodium)	01/04/2021	Bayer	NSAIDs	Rheumatoid arthritis, Osteo arthritis, Gout	It reversibly inhibits cox enzymes, thus resulting in the synthesis of PGs	Avoid alcohol	Heart burn, Headache, Drowsiness, Nausea
Tacrolimus	01/06/2021	Concord Biotech Ltd	Immuno-suppressants	To treat symptoms of eczema	Inhibits calcineurin phosphates by binding to FK506 proteins	Avoid sunlight	Diarrhoea, Headache, Low blood count
Claritin (Loratadine)	02/04/2021	Bayer Healthcare LLC	Antihistamine	Allergic rhinitis, chronic idiopathic urticaria	Blocks the action of Histamine by blocking H ₁ receptors	Avoid driving as it causes drowsiness	Headache, Itching, Rashes, Sore mouth
Doxepin Hydrochloride	01/04/2021	Appco	Tricyclic antidepressant	Depression and Anxiety	Increases the levels of serotonin and nor-epinephrine in the brain	There will be in sleeping and mood swings get changed easily	Dry mouth, Blurred vision, Constipation

MONOGRAPH ON "AZACITIDINE"

Kavitha Rasuri

BRAND NAME: Onureg, Vidaza

PRICE: \$93.50 for 100mg inj

HALF LIFE:plasma- 41 ±8 minutes

MAJOR INDICATIONS: Refractory anemia with ringed sideroblasts and excess blasts, Acute Myeloid Leukemia.

DOSAGE FORMS AND STRENGTH:

Usual Adult Dose:75 mg/m² IV or subcutaneously daily for 7 days; repeat the cycles for every 4 weeks. After 2 cycles, dose may be increased to 100 mg/m² if no beneficial effect is seen.

Oral- 300 mg OD on days 1-14 of a 28day treatment cycle.

Pediatric Dose:SubQ- 75mg/m²/dose OD for 7days. IV- 300mg/m²/dose OD for 2 consecutive days.

MECHANISM OF ACTION: Azacitidine (5-azacytidine) is a pyrimidine nucleoside analogue of the cytosine which inhibits DNA/RNA methyltransferases by incorporating into DNA and RNA. It reduces DNA and RNA methylationalters gene expression of DNA and decreases RNA stability and protein synthesis.

COMPLICATIONS: Nausea, anemia, thrombocytopenia, vomiting, pyrexia, leukopenia, diarrhoea, injection site erythema, constipation, neutropenia. Most common adverse reactions by IV route are petechiae, rigors, weakness and hypokalemia.

DRUG INTERACTIONS

- ☐ Azacitidine may decrease the levels/effects of BCG, inactivated vaccines, and live vaccines.
- ☐ Azacitidine may increase the levels of clozapine, deferiprone, natalizumab, tofacitinib.
- ☐ The effect of Azacitidine may be decreased by Echinacea and increased by chloramphenicol, dipyrone, tacrolimus, trastuzumab.

MIGRAINE TREATMENT GUIDELINES BY AMERICAN HEADACHE SOCIETY

An effective migraine management plan is based on establishing a partnership with the patient. Therapy can be optimized through a management program that encompasses education and behavioural treatments as well a pharmacologic therapy.

MIGRAINE TRIGGERS: Stress, Dietary factors, Oversleeping and Sleep deprivation, Hormonal Headaches, Noise, Bright lights, Fumes, Physical exertion, Exercise Induced Migraine.

TREATMENT STRATEGIES:

ACUTE TREATMENT: It is initiated during an attack to relieve pain and disability and to stop progression of the attack.

PREEMPTIVE TREATMENT: It is used when a known headache trigger exists, such as exercise or sexual activity, and for patients experiencing a time-limited exposure to a trigger, such as ascent to a high altitude or menstruation.

PREVENTIVE TREATMENT: It is maintained for months or even years to reduce attack frequency, severity, and duration.

ACUTE MIGRAINE MEDICATIONS:

NONSPECIFIC TREATMENT: Effective for any pain disorder, includes Non-Steroidal Antiinflammatory Drugs (NSAIDs), combination analgesics, opioids, neuroleptics/antiemetics and corticosteroids.

SPECIFIC TREATMENT: Ergotamine-containing compounds, DHE, and triptans, are effective only for the treatment of migraine and related disorders.

ROUTES OF ADMINISTRATION:

Suppositories: antiemetics, ergots, opioids.

Oral therapies: most medications.

Nasal sprays: sumatriptan, DHE, butorphanol, zolmitriptan.

Injectables:(SL, IM, IV) sumatriptan, DHE, opioids, injectable NSAIDs, neuroleptics.

TREATMENT TIPS FOR ACUTE MANAGEMENT: If acute treatment still inadequate:

Change dose or formulation, treat early while headache is mild, Add adjunctive therapy (e.g., NSAID), Tri dihydroergotamine (nasal spray, injection), Add preventive therapy, Screen for exacerbating / interfering medications, Caffeine or acute medication overuse, Aggravating medications(e.g.,nitroglycerin).

SUMMARY OF ACUTE MIGRAINE MANAGEMENT: Make a specific diagnosis, Assess migraine severity and its impact, Develop a therapeutic partnership, Agree on treatment plan, Establish realistic expectations.

ADRENOLEUKODYSTROPHY

Adrenoleukodystrophy (ALD) is a fatal progressive neurodegenerative X- linked chromosome disorder damages the myelin sheath. 1 in 20,000 to 50,000 individuals worldwide may be affected by this disease.ALD occurs in X-linked inherited fashion, where males with the mutated ABCD1 gene on X-chromosome exhibit the disease while the females with such mutation become carriers for the next generation.

The root cause for ALD the mutation that occurs in ABCD1 gene in the X-chromosome which directs to produce adrenoleukodystrophy protein (ALD protein) that acts as a transporter in the vesicles of the peroxisomes which breakdowns VLCFAs. In case of mutated ABCD1 gene they produce mutated ALD protein where they are not broken down in the peroxisomes and hence leads to accumulation of the VLCFAs damages the myelin sheath there by impair functions of the nerve cells and adrenal cells.

TYPES AND CLINICAL MANIFESTATIONS

1. Childhood cerebral type (ccALD) – This type of ALD affects males of age 4 to 10, with symptoms like visual loss, learning disabilities, seizures, dysarthria, dysphagia, deafness,

disturbances of gait and coordination, fatigue, melanoderma and progressive dementia, behavioural changes poor memory.

2. Adult cerebral type (acALD) – This ALD typically begins between ages 21 and 35 with signs of leg stiffness, progressive spastic paraparesis of the lower extremities, and ataxia.
3. Adrenomyeloneuropathy (AMN) – In this type degeneration of long nerve fibers in spinal cord and peripheral nerves. Signs of stiffness, weakness, muscle spasms and urinary problems.
4. Adrenal insufficiency - loss of appetite, pigmentation, muscle weakness, vomiting but no neurological abnormalities seen.

MANAGEMENT: This condition is very fatal, if untreated the patient can't survive more than 35 years.

Diagnostic test for ALD includes

- Blood test – to measure the amount of VLCFAs.
- Genetic testing - to confirm the diagnosis.
- Brain MRI – to know the extent of disease.
- Symptoms – to distinguish AMN type

Approved treatment strategies for ALD disease are as follows:

1. A bone marrow transplant (BMT)
2. Umbilical cord blood transplant (UCBT).
3. Gene therapy

Other treatment options include -Steroid for adrenal insufficiency, Lorenzo's oil to decrease the level of VLCFD, Switching diet to low consumption of VLCF and Symptomatic relief medications.