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NEWS LETTER OF CLINICAL PHARMACY

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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-JUNE)

APRIL:
Globally, new COVID-19 cases rose for the 8th consecutive week, with over 5.2 million new cases reported . The number of new deaths increased for the fifth consecutive week, increasing by 8% compared to 20th April, with over 83 000 new deaths reported.

- WHO COVID-19 global rapid risk assessment
- Pandemic influenza surveillance—drawing a parallel with the COVID-19 pandemic
- SARS-CoV-2 variants

MAY:
For the second successive week, the number of COVID-19 cases globally remains at the highest levels since the beginning of the pandemic with over 5.7 million new weekly cases, following nine consecutive weeks of increasesWorld Hand Hygiene Day, 5 May 2021

- WHO partnership with SeroTracker — synthesizing "real-time" seroprevalence data to support global pandemic response

JUNE :
In the past week, the number of new COVID-19 cases and deaths continued to decrease, with over 2.6 million new cases and 72 000 new deaths reported globally. While the number of cases reported globally now exceeds 175 million, over the past week, the lowest weekly case incidence since February 2021 was reported including a newly designated variant of interest (VOI), along with the geographical distribution of variants of concern (VOCs) Alpha (B.1.1.7), Beta (B.1.351), Gamma (P.1) and Delta (B.1.617.2). This edition also includes an update about strengthening public health intelligence through event-based surveillance, specifically learning from the COVID-19 pandemic.

FDA Approved Drug List (April–June, 2020)

DRUG NAME	ACTIVE INGREDIENT	DATE OF APPROVAL	Indication	MOA	Side effects
Pemazyre	Pemigatinib	April 17th	Treatment of adults with previously treated, unresectable locally advanced or metastatic cholangiocarcinoma with a fibroblast growth factor receptor 2 (FGFR2) fusion or other rearrangement as detected by an FDA-approved test	It is a small molecule kinase inhibitor that targets FGFR1, 2 and 3 with IC50 values of less than 2 nM.	Dry eyes, loss of appetite, weight loss, mouth sores, dry mouth, changes in taste, nausea, vomiting, diarrhea, constipation, tiredness/weakness, headache, or dry skin

qinlock	Ripretinib	May 15th	QINLOCK is indicated for the treatment of adult patients with advanced gastrointestinal stromal tumor (GIST) who have received prior treatment with 3 or more kinase inhibitors, including imatinib.	Qinlock (ripretinib) is a tyrosine kinase inhibitor that inhibits KIT proto-oncogene receptor tyrosine kinase (KIT) and platelet derived growth factor receptor A (PDGFRA) kinase, including wild type, primary, and secondary mutations.	Hair thinning or hair loss. Tiredness. Nausea. Abdominal pain. Constipation. Muscle pain. Diarrhea. Decreased appetite.
tauvid	Flortaucipir F18	May 28th	TAUVID is a drug for the visual detection of aggregated neurofibrillary tangles or NFTs in the brain of adult patients with suspected Alzheimer's disease (AD). NFTs are deposits of tau protein that are present in the brains of patients with AD.	Flortaucipir F 18 binds to aggregated tau protein. In the brains of patients with AD, tau aggregates combine to form NFTs, one of two components required for the neuropathological diagnosis of AD.	Headache,injection site pain, increased blood pressure.
zepzelca	Lurbinectedin	June 15th	ZEPZELCA is indicated for the treatment of adult patients with metastatic small cell lung cancer (SCLC) with disease progression on or after platinum-based chemotherapy	Zepzelca (lurbinectedin) is an alkylating drug that binds guanine residues in the minor groove of DNA, forming adducts and resulting in a bending of the DNA helix towards the major groove.	Tiredness. low white and red blood cell counts. increased kidney function blood test (creatinine) increased liver function blood tests. increased blood sugar (glucose) nausea. decreased appetite. muscle and joint pain

MONOGRAPH ON ARTESUNATE

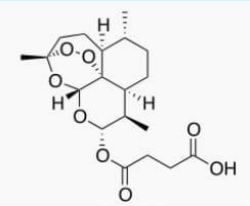
Chemical Name: Butanedioic acid, mono[(3R,5aS,6R,8aS,9R,10S,12R,12aR)-decahydro-3,6,9-trimethyl-3,12-epoxy-12Hpyrano[4,3-j]-1,2-benzodioxepin-10-yl]ester.

Empirical Formula : C19H28O8.

Drug Class:

Antimalarials, Artemisinin Derivative

Structure :



Mechanism of Action:

Artemisinin derivative; rapidly metabolized to active metabolite, dihydroartemisinin (DHA)
Artesunate and DHA, like other artemisinins, contain an endoperoxide bridge that is activated by heme iron leading to oxidative stress, inhibition of protein and nucleic acid synthesis, ultrastructural changes, and decreased parasite growth and survival
Artesunate and DHA are active against the blood-stage asexual parasites and gametocytes of Plasmodium species, including the chloroquine-resistant strains

Dosing:

The recommended dosage of Artesunate for Injection is 2.4 mg/kg administered intravenously at 0 hours, 12 hours, and 24 hours, and thereafter, administered once daily until the patient is able to tolerate oral antimalarial therapy.

Oral 200mg OD for 3 days in combination with amodiaquine ,mefloquine
Monotherapy is not recommended

Pediatric dosage:

Oral:4mg/kg OD(range:2-10mg/kg OD;not to exceed 200mg/kg) for 3 days in combination with amodiaquine,mefloquine,or amodiquine,pyrimethamine
Monotherapy is not recommended

Contraindications:

Known serious hypersensitivity (eg, anaphylaxis)

Cautions:

Hypersensitivity, including anaphylaxis, reported; consider discontinuing if hypotension, dyspnea, urticaria, or generalized rash occurs.

Adverse Effects:

Anemia , Leukocytosis, ARDS, Lymphopenia, Pneumonia, Diarrhea, Jaundice

Pharmacokinetic parameters:

Absorption:

Peak plasma concentration
Artesunate: 3.3 mcg/mL
DHA: 3.1 mcg/mL

AUC
Artesunate: 0.7 mcg· h/mL

Distribution

Protein bound : 93%

Volume of Distribution

Artesunate : 68.5L
DHA : 59.7L

DHA: 3.5 mcg· h/mL

Metabolism	**Elimination**
Primary pathway	Excretion : Unknown
Artesunate: Blood esterases	
DHA: Glucuronidation	
Metabolite	
Artesunate: DHA	
DHA: alpha-DHA-beta-glucuronide	
Half-life:	**Clearance**
Artesunate: 0.3 hr	Artesunate : 180 L/hr
DHA: 1.3 hr	DHA : 32.3 L/hr

MONITORING PARAMETERS:

- Signs and symptoms of hypersensitivity
- Hemoglobin count,reticulocyte count,haptoglobin level,lactate dehydrogenase level,and total bilirubin level once weekely for upto 4 weeks after artesunate initiation.

GUIDELINES OF ALZHEIMERS DISEASE

In 2018, the Alzheimer's Association released the first clinical practice guidelines for the evaluation of cognitive impairment suspected to be a result of Alzheimer's disease and related dementias in both primary care and specialty care settings. The guidelines contain 20 recommendations, 16 of which are classified as "A" recommendations. The primary recommendation is that all middle-aged or older individuals who self-report or for whom their care partner reports cognitive, behavioral, or functional changes undergo a timely multitiered evaluation. Other recommendations emphasize the importance of obtaining a history from the patient and someone who knows the patient well to establish the presence and characteristics of any substantial changes to categorize the cognitive behavioral syndrome, investigate possible causes and contributing factors to arrive at a diagnosis/diagnoses, and appropriately educate, communicate findings and diagnosis, and ensure ongoing management, care, and support.

The guidelines on preclinical Alzheimer's define this condition as a newly recognized hypothesis on preclinical stages. In a "preclinical" disease stage, key biological changes are under way in the body, but the disease has not yet caused any noticeable "clinical" symptoms. Current scientific evidence suggests that in preclinical Alzheimer's, brain changes caused by the disease may begin years — or even decades — before symptoms such as memory loss and confusion occur.

HUTCHINSON-GILFORD PROGERIA SYNDROME:

INTRODUCTION:

Progeria, or Hutchinson-Gilford progeria syndrome (HGPS), is a rare, fatal, genetic condition of childhood with striking features resembling premature aging. Children with progeria die of heart disease (atherosclerosis) at an average age of 14.5 years.

AFFECTED POPULATIONS: Approximately 1 in 20 million.

PATHOPHYSIOLOGY:

Progeria is caused by a change (mutation) in the LMNA gene that codes for lamin A protein.

CAUSES:

HGPS is caused by a single-letter misspelling in a gene on chromosome 1 that codes for lamin A

SIGNS AND SYMPTOMS:

Newborns with HGPS may have taut, shiny, hardened skin over the buttocks, upper legs, and lower abdomen; bluish discoloration of the skin and mucous membranes within the mid-portion of the face (midfacial cyanosis); and a “sculptured” nose.

Hypoplasia, Alopecia by approximately two years of age.

High-pitched voice; absence of the breast or nipple; absence of sexual maturation; hearing impairment.

DIAGNOSIS:

The diagnosis is based upon a thorough clinical evaluation, characteristic physical findings, a careful patient history and diagnostic genetic testing.

STANDARD THERAPY:

In November 2020, the U.S. Food and Drug Administration (FDA) approved Zokinvy (lonafarnib), a type of farnesyl transferase inhibitor (FTI) originally developed to treat cancer, as the first treatment for Hutchinson-Gilford prowgeria syndrome.