FARMACIA PRACTIA LETTRE

July – December 2020

News letter from 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 news letter. I am sure that news letter will motivate Pharm.D students, health care professionals. I this occasion, I congratulate the staff and students of department of pharmacy practice staff, and students for their efforts in bringing this colorful news letter. The clinical pharmacy activity of our pharmacy practice department has gained strength in the last couple of years with the start of Pharm.D programme and our faculty and students are involved in patient services activities in Government Hospital, Chittoor. The college has adequate facilities to train the students, conduct research facilities, consultancy services to obtain job opportunities to the students. This news letter is very much required in present scenario as it educates the health care professionals, students and academicians. I will extend my help and support in making the forcoming newsletter a rand success. I congratulate all the students and staff for bringing this educative news letter.

HIGHLIGHTS OF CURRENT ISSUE

SOGROYA

FDA approval date : 28August2020

Active ingredient : somapacitanbeco

Strength: 10mg/1.5ml

Dosage form: Parentral

Route of administration: Intravenous

MECHANISM OF ACTION:

Somapacitan-beco binds to a dimeric GH receptor in the cell membrane of target cells resulting in intracellular signal transduction and a host of pharmacodynamic effects. Some of these pharmacodynamic effects are primarily mediated by insulin-like growth factor I (IGF-1) produced in the liver, while others are primarily a consequence of the direct effects of somapacitan-beco.

Adverse drug reaction :

Increased mortality in patients with acute critical illness

- Neoplasms
- Glucose intolerance and diabetes mellitus
- Intracranial hypertension
- Severe hypersensitivity
- Fluid retention

AYVAKIT

FDA approval date : 1 September 2020

Active ingredient : Avapritinib

Strength: 100mg,200mg,300mg

Dosage form: Tablet

Route of administration: Paraoral

Mechanism of action:

Avapritinib is a tyrosine kinase inhibitor that targets KIT D816V, PDGFRA and PDGFRA D842 mutants as well as multiple KIT exon 11, 11/17 and 17 mutants with half maximal inhibitory concentrations (IC50s) less than 25 nM in biochemical assays. Certain mutations in PDGFRA and KIT can result in the autophosphorylation and constitutive activation of these receptors which can contribute to tumor and mast cell proliferation. Other potential targets for avapritinib include wild type KIT, PDGFRB, and CSFR1

Adverse drug reaction :

Avoid coadministration of AYVAKIT with strong and moderate CYP3A inhibitors. If coadministration of AYVAKIT with a moderate inhibitor cannot be avoided, reduce dose of AYVAK

Disease based information

Most Impactful Infectious Disease Outbreaks of 2020

While COVID-19 has dominated the media this year and rightfully so, it is not the only outbreak that's been causing concern. In this blog, GIDEON recounts the ten most impactful Infectious Diseases of 2020. The year 2020 has proven to be one of the most important years for medicine and for disease awareness in general. While COVID-19 has dominated all forms of media throughout the year, it is not the only outbreak causing great concern. The GIDEON database follows more than 360 Infectious Diseases worldwide on a daily basis. These are the 10 most impactful outbreaks the world encountered in 2020.

Monkeypox

An ongoing outbreak of Monkeypox has persisted well throughout the COVID-19 pandemic.

Its signs and symptoms are similar to those of Smallpox; following a three-day prodrome of fever, headache, myalgia, and back pain, patients develop a papular rash in the face, extremities, and genitals. The rash then spreads outward, with lesions evolving into umbilicated pustules. Unlike Smallpox, death from Monkeypox is relatively uncommon, representing five to ten percent of cases.

The viruses of Monkeypox and Smallpox are biologically similar. Indeed, an attack of one will immunize the patient against the other. Thus, rates of Monkeypox were low during the period that Smallpox vaccination was widely used in Africa; and discontinuation of the Smallpox vaccine has been followed by a resurgence of Monkeypox cases. Between January and September, roughly 4,500 cases (171 fatal) were reported in the Democratic Republic of Congo.

Lassa Fever

Lassa Fever is the most common cause of acquired deafness in West Africa. The virus is contracted from African rodents and their secretions, or from contact with infected patients. Illness is characterized by fever, pharyngitis, headache, chest pain, and diarrhea, frequently accompanied by a permanent loss of hearing. It is estimated that as many as 500,000 individuals are infected in West Africa each year, resulting in 5,000 deaths. During the past 50 years, at least 88 travelers have returned home to other countries with Lassa fever — including 11 returning to the United States. The largest recorded outbreak of Lassa Fever continues to endanger massive populations. As of August 16th, 2020, 5,527 cases (222 fatal) were reported in Nigeria.

Hand, Foot and Mouth Disease (Enterovirus Infection):

Hand, Foot, and Mouth Disease (HFMD) is highly contagious and common in young children. The most common causes are Coxsackievirus A16 and Enterovirus 71, and the condition is often associated with viral meningitis and encephalitis.

Vietnam's largest city, Ho Chi Minh City, has been suffering a prolonged outbreak of HFMD since the beginning of the year, with more than 6,000 cases. The highest number of new cases (640) was reported at the end of September2020, coinciding with the start of the new academic year.

Zika virus

Zika virus is primarily acquired from mosquitos but can also be transmitted sexually. Illness is characterized by fever, rash, joint pain, and headache. The disease is particularly risky for pregnant women as it may lead to fetal death or microcephaly in the newborn infant.

Hepatitis A

Hepatitis A, largely under control in the United States until three years ago, can be easily prevented through the use of a safe and effective vaccine. Sadly, the number of reported cases has taken a dramatic up-turn during the current COVID-19 pandemic.

Chikungunya

This year, Chikungunya outbreaks have been recorded in Bolivia, Brazil, Cambodia, Kenya, Malaysia, and Thailand. Of these six countries, Brazil is currently experiencing the largest outbreak, with 78,000 cases and 14 deaths reported to October. Chikungunya virus infection has been a common problem in Brazil since 2014, with a total of 900,000 cases (485 fatal) in eight outbreaks. The disease presents with fever and joint pain and is sometimes mistaken for either Dengue or Zika, both of which are also prevalent in the area.

Measles

Although Measles vaccines have been available and effective for many years, the World Health Organization (WHO) reports that global vaccination levels had reached only 61 percent in 2015. Not surprisingly, in 2020, Measles outbreaks have already been reported in 26 countries.

The most severe outbreak this year has been reported in the Democratic Republic of Congo, with more than 71,000 reported cases and 1,026 deaths. Surprisingly, these numbers represent a significant improvement over 2019, when more than 300,000 cases were reported. Over the past 20 years, the DRC has actually increased its Measles vaccine coverage from 18 percent to 92 percent. Sadly, one European country has continued to report an unusually high rate of Measles into 2020. Romania has been dealing with a large outbreak, despite having maintained more than 85 percent vaccination coverage for the past 30 years. In fact, the current outbreak dates back to 2016 and has resulted in almost 20,000 cases, including 64 deaths — far outranking all other European countries.

Dengue

Dengue is a mosquito-borne disease that causes a distinctive skin rash, high fever, headaches, vomiting, and pains in the muscles and joints. The disease has been widespread since WWII and common throughout Asia and South America, with an average of 390 million infections and 40,000 deaths each year.

Annual peaks in illness are not uncommon and there have already been no fewer than 49 separate outbreaks this year, the largest in Brazil, with more than 1.3 million reported cases and 500 deaths.

Cholera

One might be forgiven for lack of attention to the ongoing Cholera pandemic, as this is not a recent occurrence. The current (and seventh) declared pandemic actually started in South Asia in 1961 before spreading to Africa in 1971 then the Americas in 1991. Indeed, one might imagine living through a pandemic of COVID-19 for more than 55 years.

The impact of Cholera was the most severe between 1961 and 1975 but has remained a yearly threat, with millions of cases and tens of thousands of deaths. Like many of the diseases we encounter today, Cholera has ancient origins, with a description of the disease discovered in

Sanskrit writings from the Fifth Century B.C.E.. John Snow (an English physician) studied this disease in the mid-19th century, leading to several substantial advances in epidemiology.

Cholera spreads through contaminated water and food, and good personal and culinary hygiene are critical elements of control and prevention. Vaccines are available, but with relatively limited effectiveness and presence in the worst-hit regions. Those unfortunate enough to contract the disease will suffer severe diarrhea of clear or white fluid. If untreated, the disease is fatal in 50 percent of cases.

COVID-19 (SARS-CoV-2):

SARS-CoV-2, the virus that causes COVID-19, has been at the forefront of mainstream media and medical journals throughout 2020. The pandemic has now reached more than 37 million cases worldwide, leading to more than one million deaths. The United States has been one of the worst-hit countries, with nearly eight million reported cases to-date.

Persistent cough, loss of taste or smell, fever, and shortness of breath are the most common symptoms; and anyone who experiences even one of these findings should self-isolate and seek medical advice. COVID-19 is highly infectious and is primarily transmitted through inhalation of infectious droplets.

This disease will not simply "go away" until we adopt collective responsibility in preventing transmission. Take all reasonable precautions when in public; social distance, wear a mask, and regularly wash your hands. The promise of a vaccine is a tempting and hopeful prospect, but there is still uncertainty regarding release, distribution, effectiveness and duration of protection.

Together, we will get through this, and while things may never return to "normal", minimal adjustments to personal habits and daily routine will enable us to enjoy travel and visiting family and friends once again. The content for this post was created with the use of GIDEON (Global Infectious Disease and Epidemiology Network). GIDEON is the premier global infectious disease database, providing a current, evidence-based resource for diagnosis, treatment and teaching in the fields of tropical and infectious diseases, epidemiology and microbiology.