pharmahorizon

A panorama in the world of health sciences

NEWSLETTER FROM DEPARTMENT OF PHARMACY, SUMANDEEP VIDYAPEETH | OCT-DEC 2016 I Vol II Issue 4

MANAGING EDITOR'S VIEW:

It is an honour for me to serve as managing editor of Pharmahorizon. Its almost two years since we have started publishing recent news and updates in the pharmacy field as Pharmahorizon – a newsletter.

With last issue of 2016, we bring you another bundle of latest recommendations, news about newly approved drugs and status of clinical trials.

In recent times, research is shifting towards treating diseases not by drugs but by repairing the DNA. With this issue, we salute the discoverer of DNA mismatch repair and nobelist Dr. Paul L. Modrich. Also, this time our "Molecule of Millennium" is Rucaparib – a new drug to treat ovarian cancer by targeting DNA repair enzyme called PARP.

Nowadays, young generation is widely affected by "Depression". In 2016, WHO has also shifted its attention towards this and started a campaign "Depression: Let's talk" to spread the awareness about the depression (p 2). Further, we have tried to summarize three recently approved drugs to treat severe asthma, soft tissue sarcoma and eczema respectively (p 2 & 3).

The last section of our newsletter summarizes the activities carried out by DoP, SV. This time we had organized an expert talk on "Role of Adipokines" by inviting a prominent research scientist named Dr. Jogeswar Mohapatra. In Nov. 2016, DoP celebrated Pharmacy Week by organizing various pharma competitions, blood donation camp and community awareness program.

We all know that "Laughter is the best Medicine". So, never forget to read the final part "Laugh and Live Longer" of our newsletter.

Enjoy New Year…

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Dr. Kushal Gohel, Pharm.D
Asst. Prof. , DoP, SV

A tribute to discoverer of DNA mismatch Repair

Paul L. Modrich

Nobel Prize: 2015

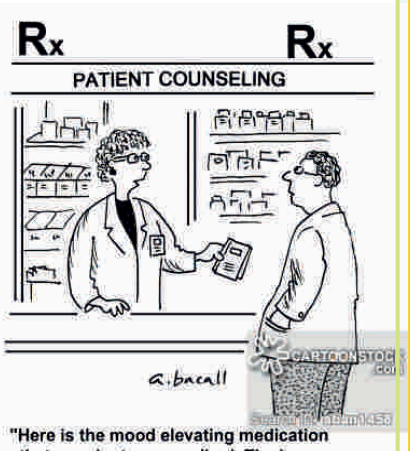
Paul Lawrence Modrich (born June 13, 1946) is an American biochemist, James B. Duke Professor of Biochemistry at Duke University and Investigator at the Howard Hughes Medical Institute. He received a Ph.D. degree in 1973 from Stanford University and a B.S. degree in 1968 from MIT. He is known for his research on DNA mismatch repair. Modrich received the Nobel Prize in Chemistry 2015, jointly with Aziz Sancar and Tomas Lindahl

Modrich became an assistant professor at the chemistry department of University of California, Berkeley in 1974. He joined Duke University's faculty in 1976 and has been a Howard Hughes Investigator since 1995. He works primarily on strand-directed mismatch repair. His lab demonstrated how DNA mismatch repair serves as a copyeditor to prevent errors from DNA polymerase. Matthew Meselson previously proposed the existence of recognition of mismatches. Modrich performed biochemical experiments to study mismatch repair in *E. coli*. They later searched for proteins associated with mismatch repair in humans.

Dr. Modrich is also a fellow of the American Academy of Arts and Sciences, and a member of the Institute of Medicine and the National Academy of Sciences

Source: https://en.wikipedia.org/wiki/Paul_L._Modrich

CARTON



"Here is the mood elevating medication that you doctor prescribed. The less costly generic version is called chocolate."

MOLECULE OF THE MILLENNIUM

RUCAPARIB

Rucaparib (brand name Rubraca roo-brah-ka, code name AG 014699) is a PARP inhibitor being investigated as a potential anti-cancer agent. Rucaparib is the first-in-class clinical candidate targeting the DNA repair enzyme poly-ADP ribose polymerase-1 (PARP-1), and was first synthesised as part of a collaboration between scientists working in Northern Institute of Cancer Research and Medical School of Newcastle University, alongside Agouron Pharmaceuticals (San Diego). It is being developed by Clovis Oncology.

In December 2016, U.S. FDA granted an accelerated approval for use in cases of pretreated advanced ovarian cancer.

It can be taken orally in tablet form. It is a benzimidazole derivative (being a 1*H*-benzimidazole-4-carboxamide).

Rucaparib inhibits "the contraction of isolated vascular smooth muscle, including that from the tumours of cancer patients. It also reduces the migration of some cancer and normal cells in culture."

As a PARP inhibitor it is expected to be more effective in cancers with a BRCA mutation (BRCA1 or BRCA2), e.g., about nine percent of pancreatic patients are BRCA1/BRCA2 positive.

It has undergone phase I clinical trials for patients with advanced solid tumours. It is in phase II clinical trials for metastatic breast and ovarian cancer with known BRCA1 or BRCA2 mutation.

It is thought that 20% of women with ovarian cancer who are not BRCA positive might also benefit from PARP inhibitors.

As of April 2016 the ARIEL3 phase III clinical trial for maintenance after platinum-based chemotherapy for serous and endometrioid ovarian cancer is active.

As of June 2016 six clinical trials of rucaparib were active.

In June 2016 some encouraging results from a small early trial on BRCA1/2 positive pancreatic cancer were announced.

Source: https://en.wikipedia.org/wiki/Rucaparib

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"Depression: Let's talk" says WHO, as depression tops list of causes of ill health

Depression is the leading cause of ill health and disability worldwide. According to the latest estimates from WHO, more than 300 million people are now living with depression, an increase of more than 18% between 2005 and 2015.

The new estimates have been released in the lead-up to World Health Day on 7 April, the high point in WHO's year-long campaign "Depression: Let's talk". The overall goal of the campaign is that more people with depression, everywhere in the world, both seek and get help. "These new figures are a wake-up call for all countries to re-think their approaches to mental health and to treat it with the urgency that it deserves" said WHO Director-General, Dr Margaret Chan.

One of the first steps is to address issues around prejudice and discrimination. "The continuing stigma associated with mental illness was the reason why we decided to name our campaign Depression: Let's talk," said Dr Shekhar Saxena, Director of the Department of Mental Health and Substance Abuse at WHO. "For someone living with depression, talking to a person they trust is often the first step towards treatment and recovery."

WHO has identified strong links between depression and other noncommunicable disorders and diseases. Depression increases the risk of substance use disorders and diseases such as diabetes and heart disease; the opposite is also true, meaning that people with these other conditions have a higher risk of depression.

Depression is a common mental illness characterized by persistent sadness and a loss of interest in activities that people normally enjoy, accompanied by an inability to carry out daily activities, for 14 days or longer.

In addition, people with depression normally have several of the following: a loss of energy, a change in appetite, sleeping more or less, anxiety, reduced concentration, indecisiveness, restlessness, feelings of worthlessness, guilt, or hopelessness, and thoughts of self-harm or suicide.

Source: http://www.who.int/mediacentre/news/releases/2017/world-health-day/en/

NEW DRUG APPROVAL

Reslizumab (Cinqair) for severe asthma

The FDA approved Reslizumab (US trade name Cinqair) for use with other asthma medicines for the maintenance treatment of severe asthma in patients aged 18 years and older on 23 March 2016. Cinqair is approved for patients who have a history of severe asthma attacks (exacerbations) despite receiving their current asthma medicines.

Reslizumab is a humanized monoclonal antibody against human interleukin-5. Reslizumab binds specifically to IL 5, a key cytokine responsible for the differentiation, maturation, recruitment and activation of human eosinophils. By binding to human IL 5, it blocks its biological function; consequently survival and activity of eosinophils are reduced. The benefits with Reslizumab are its ability to reduce the exacerbation rate and improve lung function and asthma-related quality of life in patients with severe eosinophilic asthma (with blood eosinophil count ≥ 400 cells/μL) and with at least one previous asthma exacerbation in the preceding year. The most common side effects are increased blood creatine phosphokinase, myalgia and anaphylactic reactions.

The European Medicines Agency recommended the granting of a marketing authorisation for Reslizumab (EU trade name Cinqaero) intended as add-on treatment in adult patients with severe eosinophilic asthma on 23 June 2016.

Reslizumab is supplied as a refrigerated, sterile, single-use, preservative-free solution for intravenous infusion. The Reslizumab solution is a slightly hazy/opalescent, slightly yellow liquid and is supplied as 100 mg in a 10 mL glass vial. Each single-use vial of Reslizumab is formulated as 10 mg/mL Reslizumab in an aqueous solution containing 2.45 mg/mL sodium acetate trihydrate, 0.12 mg/mL glacial acetic acid, and 70 mg/mL sucrose, with a pH of 5.5.

Source:
https://www.accessdata.fda.gov/scripts/cder/daf/index.cfm?event=overview.process&varApplNo=761033
https://en.wikipedia.org/wiki/Reslizumab

NEW GUIDELINE FOR MALARIA ELIMINATION

For the first time in 10 years, WHO has published new policy guidance on malaria elimination. It provides countries with a set of tools and strategies for achieving and maintaining elimination, regardless of where they lie across the spectrum of malaria transmission.

The 2017 *Framework for malaria elimination* was officially released at a global forum attended by national programme managers from the E2020, a group of countries that, according to a WHO analysis, have the potential to reach zero indigenous cases of malaria by 2020.

Speaking at the forum on 16 March, Dr Pedro Alonso, Director of the Global Malaria Programme, noted the need for new guidance on elimination to keep pace with the dramatic changes seen in the malaria landscape over the last decade.

"The large-scale roll-out of core malaria control tools has translated into very significant reductions in disease burden," said Dr Alonso. "We have new policy guidance and tools that were not available before, as well as new strategies. More countries are eliminating malaria or are making steady progress towards that goal. All of these advances called for a deep revision of our guidance on elimination."

Key updates

WHO's 2007 guidance on elimination focused only on countries with low and moderate transmission settings. The new guidance recognizes that malaria transmission represents a continuum; it is designed to support all malaria-endemic countries. Programme actions are highlighted across the spectrum of transmission intensity, from high to very low.

The new framework includes a streamlined process for WHO certification of malaria elimination and clarifies the threshold for reestablishment of transmission. It offers new guidance on setting targets and systems to verify malaria-free areas within a country's borders, which can be an important foundation for future national certification.

There are a number of other updates, including an overview of the critical requirements for achieving and maintaining elimination. A complete list of key changes can be found on pages 9–10 of the framework.

Source: http://www.who.int/malaria/news/2017/new-guidance-on-elimination/en/

Drugs in Clinical Trials:

UCB and Amgen's Osteoporosis study shows bone mineral density gains – Results from UCB and Amgen's Phase 3 BRIDGE study showed that in men with osteoporosis, the investigational agent Romosozumab resulted in significant bone mineral density gains at the lumbar spine, total hip and femoral neck compared to placebo at six and 12 months. The BRIDGE study involved 245 men with osteoporosis (163 Romosozumab, 82 placebo) randomised 2:1 to receive either 210 mg Romosozumab or placebo subcutaneously once monthly for 12 months. All subjects received daily calcium and vitamin D.
Source: https://www.europeanpharmaceuticalreview.com/45675/news/industry-news/ucb-and-amgens-osteoporosis/

GSK begins phase III study of once-daily closed triple combo therapy FF/UMEC/VI in patients with asthma – GlaxoSmithKline plc (GSK) and Innoviva, Inc. announced the start of a phase III study investigating the effects of once-daily closed triple combination therapy fluticasone furoate/umeclidinium/vilanterol (FF/UMEC/VI) when compared to therapy with the once-daily dual combination therapy, Relvar/Breo (FF/VI), as a treatment for patients with asthma. The closed triple combination therapy comprises three medicines: fluticasone furoate, an inhaled corticosteroid (ICS), umeclidinium, a long-acting muscarinic antagonist (LAMA) and vilanterol, a long-acting beta2-adrenergic agonist (LABA), delivered once-daily in GSK's Ellipta dry powder inhaler.
Source: http://www.pharmabiz.com/NewsDetails.aspx?aid=99308&sid=2

Dietary Research:

Diet rich in whole grain may cut Diastolic BP in heavy adults

A diet rich in whole grain appears to lower diastolic blood pressure in overweight and obese adults relative to a refined-grain diet, a new trial suggests. The study, a double-blind, randomized, controlled crossover trial, was published online on October 19 in the Journal of Nutrition. While on the whole-grain diet, participants saw a three-fold improvement in diastolic blood pressure compared with the group eating refined grain. The researchers note that since diastolic blood pressure predicts mortality in adults under 50, an increased whole-grain intake may provide a simple approach to control hypertension and benefit patients at risk of vascular-related morbidity and mortality.
Source: http://www.medscape.com/viewarticle/871105

NEW MOLECULE ENTITY & NEW THERAPEUTIC BIOLOGICAL PRODUCT

Lartruvo (Olaratumab)

October 19, 2016 - The U.S. Food and Drug Administration granted accelerated approval to Lartruvo (Olaratumab) with Doxorubicin to treat adults with certain types of soft tissue sarcoma (STS), which are cancers that develop in muscles, fat, tendons or other soft tissues. Lartruvo is approved for use with the FDA-approved chemotherapy drug Doxorubicin for the treatment of patients with STS who cannot be cured with radiation or surgery and who have a type of STS for which an Anthracycline (chemotherapy) is an appropriate treatment.
Source: https://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm525878.htm

Eucrisa (Crisaborole)

December 14, 2016 - The U.S. Food and Drug Administration approved Eucrisa (Crisaborole) ointment to treat mild to moderate eczema (atopic dermatitis) in patients two years of age and older. The safety and efficacy of Eucrisa were established in two placebo-controlled trials with a total of 1,522 participants ranging in age from two years of age to 79 years of age, with mild to moderate atopic dermatitis. Overall, participants receiving Eucrisa achieved greater response with clear or almost clear skin after 28 days of treatment.
Source: https://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm533371.htm

DEPARTMENT OF PHARMACY ACTIVITIES:

Deliberation on "Obesity & Associated Metabolic Complications: Role of Adipokines"

Department of Pharmacy, SV organized a deliberation on "Obesity & Associated Metabolic Complications: Role of Adipokines" on 7th October 2016. The speaker for the deliberation was Dr. Jogeswar Mohapatra, Department of Pharmacology and Toxicology, Zydus Research Centre (ZRC), Ahmedabad. Dr. Mohapatra explained about the need to prevent increasing prevalence of obesity and the role of adipokines in its pathology. He also summarized about the ongoing research on adipokines at ZRC, Ahmedabad.

Orientation program for B.Pharm students

Department of Pharmacy, SV organized an orientation program for first year B.Pharm students on Wednesday, 12th October 2016. Twenty students and their parents attended the program. The aim of conducting orientation program is to prepare students to navigate their new academic environment and to groom and motivate the new entrants to be a good professional. The orientation program educates the new students about the institution, campus and also provides the information about the scope and opportunities of B.Pharm course.

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DEPARTMENT OF PHARMACY ACTIVITIES (CONT.):

Faculty of DoP, SV at IPSCON:

Dr. R. Balaraman, Dr. Rajesh Maheshwari and Ms. Disha Shukla of DoP, SV presented oral paper in the IPSCON 2016 held at PGIMER, Chandigarh. Dr. Balaraman was nominated for FIPS (Fellow of Indian Pharmacological Society). He also delivered a guest lecture on Evidence Based Education System (EBES).

Pharmacy Week Celebration:

Department of Pharmacy, SV celebrated Pharmacy week on 22nd, 23rd and 24th November, 2016. The celebration was a part of 55th National Pharmacy Week celebrations. The theme selected for this year was "Pharmacists for a healthy India; Role in Prevention and Management of Diabetes". The main objective of Pharmacy week celebrations was to create awareness among the public and the authorities about the role of pharmacist in the management and prevention of diabetes and thus supporting for a better India. On day 1, after completion of inauguration ceremony different student activities like, Quiz competition as well as Elocution competition were organized. On the 2nd day of Pharmacy week celebration, Pharma Rangoli and Essay writing competition were held in the morning session. In the afternoon, poster competition and a blood donation camp was organized. Pharmacy week 2016 was concluded on 3rd day by a community awareness program in Sumandeep Vidyapeeth campus. Blood sugar and blood pressure estimation of the community people were done by pharmacy students. Also, some of the students were engaged in spreading the awareness regarding signs and symptoms of diabetes, importance of estimating blood sugar on regular basis, how to prevent & manage diabetes as well as complications of diabetes. All the participants of pharmacy week were provided with a certificate of appreciation and participation.

Poster presentation Competition

Screening of Blood Pressure and Blood Sugar

LAUGH & LIVE LONGER

A young doctor had just opened office and felt really excited. His secretary told him a man was here to see him. The young doctor told her to send him in. Pretending to be a busy doctor, he picked up the phone just as the man came in. "Yes, that's right. The fee is $200. Yes, I'll expect you ten past two. Alright. No later. I'm a very busy man." He hung up and turned to the man waiting. "May I help you?" "No," said the man, "I just came in to install the phone."

The man told his doctor that he wasn't able to do all the things around the house that he used to do. When the examination was complete, he said, "Now, Doc, I can take it. Tell me in plain English what is wrong with me?" "Well, in plain English," the doctor replied, "you're just lazy." "Okay," said the man. "Now give me the medical term so I can tell my wife."

Book-Post

To, ...

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Postal stamp

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