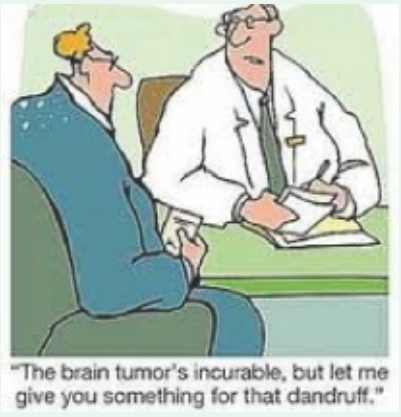
pharmahorizon

A panorama in the world of health sciences

NEWSLETTER FROM DEPARTMENT OF PHARMACY, SUMANDEEP VIDYAPEETH | JAN-MAR 2016 | Vol II Issue 1

CARTON



"The brain tumor's incurable, but let me give you something for that dandruff."

MANAGING EDITOR'S VIEW:

It is my great privilege to write a few lines in the editorial section of the 6th issue (1st issue of 2016) of Pharmahorizon. We have been successful in publishing all the issues in the last year due to the cooperation and hard work of the editorial board. From this year onwards Pharmahorizon will be published quarterly. In this issue, we have paid a tribute to the scientist in the field of medicine and pharmacology who has contributed to the discovery of G protein coupled receptors. After the discovery of GPCR, so many drugs came into the market for the alleviation of many diseases. We also tried to discuss on new drug molecule serelaxin which is useful for the congestive cardiac failure. This drug might turn out to be a block buster drug in near future for CCF, since it acts through a very unique mechanism. On the basis of WHO report, we have explained avenues for treating pre-eclampsia and eclampsia problems. Alirocumab might be an answer for all the controversies in future for treating familial hypercholesterolemia. We have disseminated the issue on the usage of metformin in the kidney failure patients. The recent reports have suggested that metformin might be used in mild to moderate kidney failure. We successfully conducted the second national seminar and workshop: Pharmarendzvous-2016 and about 350 delegates participated from different parts of India. In this issue we have included a brief report of this seminar & workshop and also some photographs which were taken during the event.

Dr. Vasa Siva Sankar, Pharm.D
Asst. Prof. , DoP, SV

A tribute to Discoverer of the G-Protein Nobel Prize: 1994

Alfred Goodman Gilman (July 1, 1941 – December 23, 2015) was an American pharmacologist and biochemist. He and Martin Rodbell shared the 1994 Nobel Prize in Physiology or Medicine for their discovery of G-proteins and the role of these proteins in signal transduction in cells. Gilman was the son of Alfred Gilman, who co-authored Goodman & Gilman's The Pharmacological Basis of Therapeutics with Louis S. Goodman, from whom his middle name came. He earned a BA in biology with major in biochemistry from Yale University. Immediately after graduation in 1962, he worked with Allan Conney at Burroughs Wellcome & Company, which resulted in the publication of his first two technical papers. Persuaded by Earl Wilbur Sutherland, Jr., he joined Case Western Reserve University School of Medicine for an MD-PhD course. He obtained his degree in 1969. He then went to the National Institutes of Health to work with Marshall Nirenberg between 1969 and 1971.G proteins are a vital intermediary between the extracellular activation of receptors (G protein-coupled receptors) on the cell membrane and actions within the cell. Rodbell had shown in the 1960s that GTP was involved in cell signaling. It was Gilman who actually discovered the proteins that interacted with the GTP to initiate signalling cascades within the cell, and thus, giving the name G proteins. For his works, he received the Canada Gairdner Foundation International Award in 1984, Albert Lasker Award for Basic Medical Research and the Louisa Gross Horwitz Prize in 1989, in addition to Nobel Prize. Source: https://en.wikipedia.org/wiki/Alfred_G._Gilman

MOLECULE OF THE MILLENNIUM

Serelaxin is identical in structure to the naturally occurring H2 relaxin which has been associated with many of the adaptive maternal physiological responses to pregnancy. Relaxin has a number of biological effects that indicate a role in regulating systemic and renal hemodynamics. Relaxin-2 is believed to regulate vascular maternal adaptations to pregnancy by decreasing systemic vascular resistance, increasing cardiac output and increasing renal blood flow. These hemodynamic effects have been replicated following exogenous administration of serelaxin in nonclinical models. Other potential effects of serelaxin, including connective tissue remodeling, angiogenesis, anti-inflammatory and antiischemic effects have also been described. The activity of relaxin-2 is initiated by binding to its cognate G protein-coupled high affinity and low-affinity receptors, RXFP1 and RXFP2, respectively in renal and systemic vasculature, kidney epithelium and cardiac tissue. RXFP1 and RXFP2 binding activates a wide spectrum of signaling pathways to generate second messengers that include cAMP and nitric oxide. It is thought that relaxin-2 mediates the upregulation of endothelin B receptor which increases endothelin-1 clearance (a vasoconstrictor) and nitric oxide release. This is thought to lead to improved vascular compliance, cardiac output and renal blood flow. It is also thought that relaxin-2 increases the expression of angiogenic grown factors and matrix gelatinases that preserve cardiac tissue structural integrity.

The addition of RLX030 to conventional treatment led to improvements in breathlessness (dyspnea) and mortality at 6 months across all pre-specified subgroups including those with renal impairment (eGFR<50 ml/min), the elderly (≥75 years) and patients with atrial fibrillation, although the small numbers of patients in each group limit the statistical conclusions that can be drawn. AHF patients require urgent treatment so prompt decision-making to stop heart failure worsening is crucial in spite of patients often having diverse clinical profiles. RLX030 reduced the risk of death by more than one-third (37%) compared with conventional treatment at six months. the majority of AEs were observed in the System Organ Classes (SOCs) Cardiac disorders (placebo: 15.8%; serelaxin: 12.3%) with Cardiac failure congestive (placebo: 5.6%; serelaxin: 3.3%), Cardiac failure (placebo: 1.6%; serelaxin 0.7%) and Ventricular tachycardia (placebo: 1.8%; serelaxin 0.7%) as the most frequently reported AEs in this SOC.

Source: https://www.nibr.com/news/media-releases/novartis-serelaxin-rlx030-improved-symptoms-and-mortality-across-multiple

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WHO recommendations on Interventions that are recommended for prevention or treatment of pre-eclampsia and eclampsia:

(strong recommendation)

- In areas where dietary calcium intake is low, calcium supplementation during pregnancy (at doses of 1.5–2.0 g elemental calcium/day) is recommended for the prevention of pre-eclampsia in all women, but especially those at high risk of developing pre-eclampsia.
- Low-dose acetylsalicylic acid (aspirin, 75 mg) is recommended for the prevention of pre-eclampsia in women at high risk of developing the condition.
- Women with severe hypertension during pregnancy should receive treatment with antihypertensive drugs.
- Magnesium sulfate is recommended for the prevention of eclampsia in women with severe pre-eclampsia in preference to other anticonvulsants.
- Magnesium sulfate is recommended for the treatment of women with eclampsia in preference to other anticonvulsants.
- The full intravenous or intramuscular magnesium sulfate regimens are recommended for the prevention and treatment of eclampsia.
- Induction of labour is recommended for women with severe pre-eclampsia at a gestational age when the fetus is not viable or unlikely to achieve viability within one or two weeks.
- In women with severe pre-eclampsia at term, early delivery is recommended.
- In women treated with antihypertensive drugs antenatally, continued antihypertensive treatment postpartum is recommended.
- Treatment with antihypertensive drugs is recommended for severe postpartum hypertension.
- Vitamin D supplementation during pregnancy is not recommended to prevent the development of pre-eclampsia and its complications.
- Individual or combined vitamin C and vitamin E supplementation during pregnancy is not recommended to prevent the development of pre-eclampsia and its complications.
- Diuretics, particularly thiazides, are not recommended for the prevention of pre-eclampsia and its complications.

NEW DRUG APPROVAL

Praluent (alirocumab) (Approved in July 2015) is a PCSK9 (Proprotein Convertase Subtilisin Kexin Type 9) inhibitor antibody.
Praluent is specifically indicated as adjunct to diet and maximally tolerated statin therapy for the treatment of adults with heterozygous familial hypercholesterolemia or clinical atherosclerotic cardiovascular disease, who require additional lowering of LDL-cholesterol (LDL-C).
Praluent is supplied as an injection for subcutaneous use. The recommended starting dose for Praluent is 75 mg administered subcutaneously once every 2 weeks, since the majority of patients achieve sufficient LDL-C reduction with this dosage. If the LDL-C response is inadequate, the dosage may be increased to the maximum dosage of 150 mg administered every 2 weeks.
Adverse effects associated with the use of Praluent may include, but are not limited to, Nasopharyngitis, injection site reactions, influenza.

Mechanism of Action

Praluent (alirocumab) is a human monoclonal antibody that binds to proprotein convertase subtilisin kexin type 9 (PCSK9). PCSK9 binds to the low-density lipoprotein receptors (LDLR) on the surface of hepatocytes to promote LDLR degradation within the liver. LDLR is the primary receptor that clears circulating LDL, therefore the decrease in LDLR levels by PCSK9 results in higher blood levels of LDL-C. By inhibiting the binding of PCSK9 to LDLR, alirocumab increases the number of LDLRs available to clear LDL, thereby lowering LDL-C levels.

Source: http://www.centerwatch.com/drug-information/fda-approved-drugs/drug/100089/praluent-alirocumab.

DRUG SAFETY COMMUNICATION

FDA adds warnings about heart failure risk to labels of type 2 diabetes medicines containing saxagliptin and alogliptin
A U.S. Food and Drug Administration (FDA) safety review has found that type 2 diabetes medicines containing saxagliptin and alogliptin may increase the risk of heart failure, particularly in patients who already have heart or kidney disease. Heart failure can result in the heart not being able to pump enough blood to meet the body's needs. As a result, FDA added new warnings to the drug labels about this safety issue.
Saxagliptin and alogliptin are part of the class of dipeptidyl peptidase-4 (DPP-4) inhibitor drugs, which are used with diet and exercise to lower blood sugar in adults with type 2 diabetes. Untreated, type 2 diabetes can lead to serious health problems, including blindness, nerve and kidney damage, and heart disease. Patients taking these medicines should contact their health care professionals right away if they develop signs and symptoms of heart failure such as: Unusual shortness of breath during daily activities, Trouble breathing when lying down, Tiredness, Weakness, or Fatigue, Weight gain with swelling in the ankles, feet, legs, or stomach. Patients should not stop taking their medicine without first talking to their health care professionals. Health care professionals should consider discontinuing the medicine in patients who develop heart failure and monitor their diabetes control. If a patient's blood sugar level is not well-controlled with their current treatment, other diabetes medicines may be required.

FDA revises warnings regarding use of the diabetes medicine metformin in certain patients with reduced kidney function
The U.S. Food and Drug Administration (FDA) announced is requiring labeling changes regarding the recommendations for metformin-containing medicines for diabetes to expand metformin's use in certain patients with reduced kidney function. The current labeling strongly recommends against use of metformin in some patients whose kidneys do not work normally. FDA was asked to review numerous medical studies regarding the safety of metformin use in patients with mild to moderate impairment in kidney function, and to change the measure of kidney function in the metformin drug labeling that is used to determine whether a patient can receive metformin. FDA has concluded in their review, and are requiring changes to the labeling of all metformin-containing medicines to reflect this new information. Health care professionals should follow the latest recommendations when prescribing metformin-containing medicines to patients with impaired kidney function. FDA also recommended that, the measure of kidney function used to determine whether a patient can receive metformin be changed from one based on a single laboratory parameter (blood creatinine concentration) to that of eGFR (glomerular filtration rate estimating equation) which provides a better estimate of kidney function in patients with kidney disease.

Source: http://www.fda.gov/Drugs/DrugSafety/ucm468634.htm

Faculties of DoP, SV awarded PhD Degree:

Dr. Ankur Javia, Assistant Professor, has been awarded the degree of Doctor of Philosophy (Ph.D) in Pharmaceutical Sciences by Sumandeep Vidyapeeth in March 2016 for the study entitled "Design, Development and Characterization of Colon Cancer targeting Folic Acid conjugated Capecitabine Nanoparticles". He has conducted his research work under the guidance of Dr. Avinash K Seth, HOD/Director, Department of Pharmacy, Sumandeep Vidyapeeth.

Dr. Chintan Aundhia, Assistant Professor, has been awarded the degree of Doctor of Philosophy (Ph.D) in Pharmaceutical Sciences by Sumandeep Vidyapeeth in March 2016. His dissertation topic was "Bioavailability enhancement of Bisphosphonates by nanocarrier systems for treatment of Osteoporosis". He has completed his Ph.D research work under the guidance of Dr. Avinash K. Seth, HOD/Director, Department of Pharmacy, Sumandeep Vidyapeeth.

Department of Pharmacy - Activities:

First Aid Training Program
Department of Pharmacy, SV in collaboration with Indian Red Cross Society – Vadodara branch organized a "First Aid training program" on 19th and 20th January, 2016. All the students and staff members of DoP, SV actively participated in the training program.

NIPiCON – 2016, Nirma University, Ahmedabad
The 3rd Nirma Institute of Pharmacy International Conference was held on 21st to 23rd January, 2016 at Nirma University, Ahmedabad. Eminent speakers from all around the world were invited to deliver a talk on various topics of drug discovery and cancer treatment. Three faculty members of Department of Pharmacy, Dr. Vikas Chandrakar, Dr. Kushal Gohel and Dr. Vasa Siva Sankar attended the conference and also presented the posters on different topics from the field of Clinical Pharmacy.

Pharmashine – 2016
Department of Pharmacy celebrated sports and cultural week "Pharmashine-2016" from 27th January to 3rd February, 2016. Sports events such as, Cricket, Volleyball, Football, Chess, Carrom, Basketball, Badminton, Table Tennis as well as cultural events such as, Cook Without Fire, Mehandi etc. were organized. Near about 100 students participated in various events of Sports and Cultural week.

International conference of International Academy of Cardiovascular Sciences (IACS) – India section
The 8th International conference of IACS – India section was held on 5th and 6th February, 2016 at Anand Pharmacy College, Anand. Dr. R. Balaraman, Professor, Dept. of Pharmacy, SV was invited as a resource person to deliver a lecture at the conference. He delivered a talk on "The role of PPAR agonist in Experimental Endotoxemia Induced Adipose Inflammation and Insulin Resistance in db/db mice". Furthermore, Dr. Rajesh Maheshwari, Asso. Prof., DoP, SV also attended the conference and presented a poster at the conference.

NanoSciTech – 2016, Punjab University, Chandigarh
An International Conference – NanoSciTech 2016 was organized by Punjab University, Chandigarh on 18th to 20th February, 2016. The theme of NanoSciTech 2016 was "Improving Quality of Life using Nanotechnology: Potential Role of Polymers". The three day conference included various seminars and lectures on topics such as, Polymeric Nanocarriers for Drug Delivery Systems, Phospholipids as Pharmaceutical Excipients: A Boon in Nanomedicine etc. Two faculty members and 43 students of DoP, SV attended the conference. Dr. Girish Sailor, Asso. Prof. and Dr. Chintan Aundhia, Asst. Prof., DoP, SV also presented the posters on different topics at the conference.

Pharmarendezvous 2016 - 2nd National Workshop and Seminar
A sequel of the National seminar Pharmarendezvous 2013 was organized by Department of Pharmacy, Sumandeep Vidyapeeth as Pharmarendezvous 2016 on 21st and 22nd March. The theme selected for the workshop and seminar was "Role of clinicians and pharmacists in implementing Pharmacovigilance to overcome adverse drug reactions (ADR)" and "Cancer treatment: A global challenge" respectively. The two day conference started with workshop on Pharmacovigilance on the first day and a Seminar on Cancer therapy on the second day. Dr. T. Rajamannar, Director and Executive VP, R & D, Sun Pharma Advance Research Company Ltd. and Mr. Bharat Dangar, Mayor, Vadodara city were invited as a Chief Guest and Guest of Honour, respectively. Eminent speakers from various pharmaceutical industries and medical as well as pharmacy institutions were invited as resource persons. Three hundred fifty delegates from all over India participated in the conference. Oral paper and poster presentation sessions were also conducted on both the days of Pharmarendezvous 2016.

On day 1, Dr. Bikash Medhi, Professor, Department of Pharmacology and Coordinator, Pharmacovigilance Centre, PGIMER, Chandigarh delivered a talk on "Introduction of PvPI and scope of transnational Pharmacovigilance". He highlighted the facts of Pharmacovigilance in India and also explained about the importance of Pharmacovigilance as an integral part of clinical research. The talk followed by a lecture of Dr. Chetna Desai, Professor and HOD of Pharmacology, B.J Medical College, Ahmedabad who delivered a speech on topic "Importance of reporting the adverse drug reactions: Need of the hour" and "Research areas in Pharmacovigilance". In her talk, Dr. Desai deliberated the Importance of reporting the adverse drug reactions and how it is essential in saving the life of patients as well as the research areas of Pharmacovigilance. The last plenary lecture of day 1 was delivered by Dr. Ajay Prakash, Assistant Professor, Department of Pharmacology, PGIMER, Chandigarh. The topic of his lecture was "Coding of ADR and Drug Information: Data entry and VigiFlow perspective". During his talk, he has also provided hands-on training of ADR form filling as well as coding of ADR.

A cultural night "Pharmashine" was organized by the students and staff of Dept. of Pharmacy on 21st March, 2016. The students enthralled audience with their scintillating performances and delegates thoroughly enjoyed the cultural night. Without any doubt, everyone had a wonderful time after the full day workshop.

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On day 2, the first plenary lecture was delivered by Dr. Abhijit Chatterjee, Deputy General Manager/Group Leader, Zydus Research Centre (ZRC), Ahmedabad. The topic of his presentation was "A new armour to meet the global challenge in cancer therapy: Identification of a novel and potent PARP inhibitor ZYTP1". He explained about the new molecule discovered by ZRC and what are the outcomes of various studies of ZYTP1. The next lecture was delivered by one of the most renowned physician in the field of Oncology, Dr. Chirag Shah, Director, Department of Cancer, Blood Disease and Stem Cell Transplant, Apollo Hospital, Ahmedabad. The topic of his talk was "Current advances in oncology". He explained about some of the important aspects of cancer treatment and current advances in the field of oncology. Dr. (Col) V.P Singh, Officiating Vice Chancellor, Sumandeep Vidyapeeth made a presentation on "Patient Safety". The presentation was very interactive. He spoke about the importance of patient safety in a positive and uplifting way. The next speaker was Dr. Chandramani B. More, Professor and Head, Department of Oral Medicine and Maxillofacial Radiology, K.M. Shah Dental College and Hospital. Sumandeep Vidyapeeth. The topic of his lecture was "Chemo preventive therapy in oral pre-cancer and its effect on biomarkers: An evidence based approach". He mainly focused on the food supplements and herbs which can be taken in day to day life in order to prevent oral pre-cancer. Further, Dr. Rishit Zalawadia, Manager, Discovery biology, Sun Pharma Advanced Research Centre, delivered a talk on "Role of human tumour xenografts as predictive preclinical models for drug discovery". He explained about the role of human tumour xenografts in preclinical studies of cancer drugs with examples of their studies. The last lecture of day 2 was given by Dr . Velumurugan, Senior scientist, Centur y Pharmaceuticals ltd, Vadodara. The topic of his presentation was "Trends in oncology drug development: Industrial perspective". He talked about various methods and procedure of drug development in an industry.


Dr. A. K. Seth welcoming Dr. T. Rajamannar


Mr. Bharat Dangar


Souvenir releasing ceremony


Dr. Bikash Medhi

Dr. Chetna Desai


Dr. Ajay Prakash

Dr. Abhijit Chatterjee

Dr. Chirag Shah


Dr.(Col.) V. P. Singh

To, ...

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Postal stamp

Book-Post

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Note: If you have any query regarding medication and disease please write us at: svdruginfo@gmail.com