Volume 4
August 2022

Rx FACTOR

News letter by

NATIONAL ASSOCIATION OF PHARMACOLOGY AND THERAPEUTICS

www.nationalpharmacology.org

E-mail: rxfactornpt@gmail.com

Supported by

Highlights

1) Academic Corner

Current Therapeutics, New Drugs, Banned Drugs, Integrated Approach to Therapeutics

2) Research Corner

Trends in Current Research, Areas of Research for UG & PG, Innovations & Techniques in Research

3) Vigilant Corner

Adverse Drug Reaction Updates, Widening the Horizon of Safe Therapeutics

4) Medical education Corner

Competency Building, Skill Development, OSPE, New Teaching & Learning Methods

5) Ethics & Regulations

Current Updates from Regulatory Bodies

6) Current affairs

Latest medical news

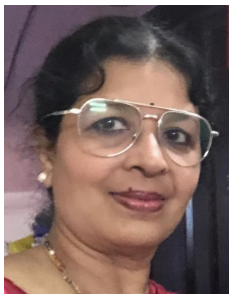
7) Cool corner

Mini quiz, Puzzle, Cartoons, Mnemonics, images

From Editorial desk

E-mail: rxfactornpt@gmail.com

Dr Sushil Sharma
Professor and Head
Department of Pharmacology
All India Institute of Medical Sciences
Mangalagiri, Andhra Pradesh



Dr Jeyalalitha Rathinam
Professor and Head
Department of Pharmacology
Government Medical College, The Nilgiris
Ootacamund, Tamilnadu

Warm greetings to all.

Welcome to the Volume 4 of '**RxFactor**', a one of a kind initiative from the NATIONAL ASSOCIATION OF PHARMACOLOGY AND THERAPEUTICS (NPT) . RxFactor has been designed to encompass the range and breadth of Pharmacology and therapeutics ranging from Medical Education, Pharmaco-vigilance, Research and Therapeutics. The first three editions of Rxfactor have been well received and we thank you all for the words of encouragement and appreciation.

The current edition of Rxfactor newsletter has interesting and relevant articles on use of innovative approaches of teaching pharmacology to medical students, from using Models for Pharmacology teaching to the use of Scrambled words to cross-words etc . We also have articles that are critically looking at the newer drugs like Adacumumab and Dostarlimab that have been approved by FDA very recently. The COVID pandemic has brought to the fore crucial challenges to clinical research including scarcity of trial participants, restricted access to research settings and lack of trial supplies etc. We have a very relevant article on 'Rejuvenating research in the aftermath of the pandemic' which tries to provide solutions to this challenge. The Guidelines for the management of Vitilligo and the Extract from NMDP group are some of the other notable inclusions. Further, as always the 'cool corner' has a crossword & cartoons to add a fun element to pharmacology learning.

The current issue also has details regarding one of the most important events of this year, the Annual Conference of National Association of Pharmacology and Therapeutics **NAPTICON 2022** being organised by the Dept of Pharmacology , Father Muller Medical College, Mangalore on 28 th and 29th November with a pre-conference workshop on 27 th Nov 2022. Hope to see you at at NAPTICON 2022.

We would like to thank all the contributors of RxFactor for their efforts and support in making this issue of Rxfactor a grand success. We look forward to a happy education and mutual learning with all our readers.

Jai Hind.

Dr Sushil Sharma

Dr Jeyalitha Rathinam

Clinical improvement or Biomarker reduction: Adacanumab approval reignites the controversy!!

Alzheimer's disease (AD) is the single biggest cause of dementia, accounting for 50%–75%. It is a progressive disease beginning with mild memory loss and eventually may leading to loss of the cognitive skills. One can develop AD either sporadically with typical late onset of dementia or due to genetic predisposition due to mutation in Amyloid Precursor Protein (APP), Presenilin 1 (PSEN1) and Presenilin 2 (PSEN2). The pathognomonic features of AD are amyloid plaques and neurofibrillary tangles.

Aducanumab:

AD is being treated for decades using anticholinergic drugs such as Galantamine, Donepezil and Memantine. On June 17, 2021 a drug named Aducanumab got accelerated approval for mild to moderate Alzheimer's disease against the FDA's advisory panel.

Aducanumab is a human, Immunoglobulin gamma 1 (IgG1) monoclonal antibody directed against aggregated soluble and insoluble forms of amyloid beta. It has successfully reduces the beta amyloid plaque accumulation in the brain of diseased patients, evidenced by PET scan in affected areas of brain. In addition to that, it also reduced markers of Tau pathophysiology in the CSF of diseased participants.

The recommended dosage is 10 mg/kg for four weeks IV with at least 21 days of drug free interval between successive doses. It is available in concentrations of 170 mg/1.7 mL (100 mg/mL) or 300 mg/3 mL (100 mg/mL).
The commonly observed adverse event in the conducted clinical trials was amyloid related imaging abnormalities (ARIA), characterised by swelling in the brain areas which resolves over time. The other adverse effects were related to hypersensitivity reactions.

What is the Controversy?

The outcome measured in Aducanumab clinical trials was a surrogate marker i.e. reduction in amyloid plaques in the disease affected brain areas, rather than a true clinical outcome. Amyloid Plaque reduction, however, has not been a reliable marker for cognitive function in past trials. Not everyone with plaques has or will get Alzheimer disease, and other plaque-reducing medications have not shown meaningful patient benefit. Moreover, the two earlier clinical trials were stopped as they met futility criteria and in the interim analyses also it has failed to demonstrate any significant clinical efficacy.

On the contrary, widely used anticholinergic drugs have a reasonably good clinical efficacy in the AD patients and are being prescribed over several decades. This forces the physicians and patients to contemplate whether to include this drug in the pharmacotherapy of Alzheimer's disease. Thus, it makes us wonder whether should be prescribed to correct the biological markers or for the clinical improvement of patients.

Dr.Sridevi Raman
Senior Resident,
Melmaruvathur Adhiparasakthi ,
Institute of Medical Sciences and Research (MAPIMS)

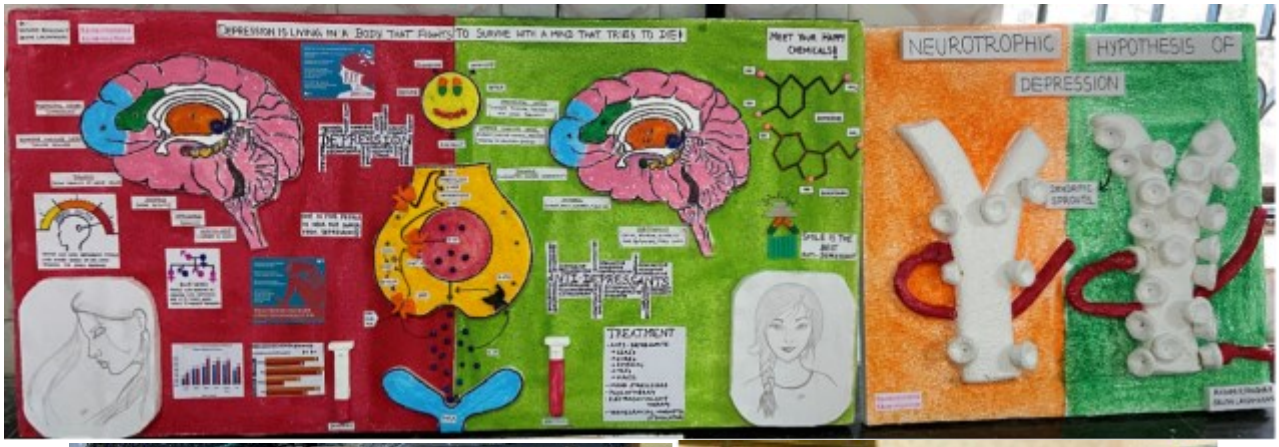
Medical Education Corner

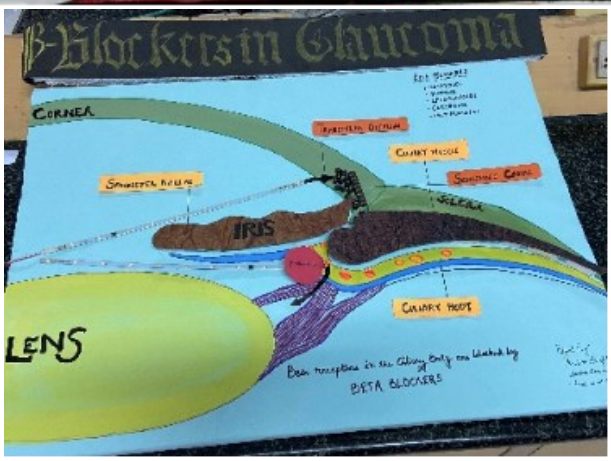
Innovative Teaching in Pharmacology through Models

Innovative teaching methods play an important part in creating in the subject for the students. Keeping this in mind, the Department of Pharmacology from SRM Medical College Hospital & Research Centre conducted a model making competition among II year MBBS students.

The students were divided into groups and were asked to choose the topic of their interests keeping standard pharmacology textbooks as reference. A total of 60 entries were received on the following titles, NSAID-induced peptic ulcer, mechanism of action of sedative-Hypnotics, antidepressants, G-protein coupled receptors, neuromuscular blockers, first-pass metabolism, the role of beta blockers in glaucoma, actions of insulin and drugs used for acne, to mention a few. The department faculty guided the students and were engaged with the students to refine their thought processes in model making. On the day of the competition, all the students displayed their models and gave a succinct presentation for the same.

The competition was judged by the Our Dean (Medical), Prof. Dr. A. Sundaram, our Head of the Department, Dr. R. Jamuna Rani and Professor Dr. V. Sathyanarayanan. Prizes were awarded for the best models based on the content, presentation skills, creativity, novelty and category of the model (working/display). This event actually kindled the spirit of active learning by the students and aided an in-depth knowledge of their respective topics. It was also appreciated by other department faculty. This model-making competition was a huge success and set a role model for innovative teaching.





Sangeetha Raja, Associate Professor
Indumathi Prabath , Assistant Professor
Department of Pharmacology
SRM Medical College Hospital & Research Centre, Kattankulathur, TN

Rx Research Corner

Potential Tactics for the Rejuvenation of Academic Medical Research in the aftermath of a Pandemic

With the COVID-19 pandemic almost having halted the entire world, we are right now in the recovery phase but the future is actually uncertain with the surging mutants and increasing COVID-19 cases in the country and the best solution in such a scenario is to be prepared. The crucial challenges to clinical research imposed by the COVID-19 pandemic are countless including scarcity of trial participants, restricted access to research settings and lack of trial supplies.

Conventional academic clinical research is often materialized by the collaborative efforts of study personnel like faculty, healthcare students and paramedical supporting staff along with public involvement in a well-equipped hospital setting. Nevertheless, during the ubiquitous COVID-19 infection, medical research is just left with enthusiastic students, motivating faculty, novel research ideas, established infrastructure cum equipment, and access to digital resources with the whole crew of research volunteers succumbed to COVID-19 and COVID-19-related diseases.

In these times of hardships, the research community is bestowed with two driving forces namely expansion of current research ideas and efficient utilization of digital platforms to a great extent. In this context, we have enlisted some specific ideas for pursuing academic research in Indian healthcare institutions amidst and after the pandemic crisis.

FEASIBLE RESEARCH OPPORTUNITIES:

1) **Database-related studies**: It includes record-based studies, case-control studies or an interesting approach of disproportionality analysis using vigilance-based software. With the advancement of computerized clinical data entry and compilation in Indian medical institutions, electronic databases can be employed in research ideas related to pharmacovigilance, drug utilization, pharmaco-economics and drug-drug interaction studies .

2) **Meta-analysis**: Meta-analysis would be a promising modality of research training for postgraduates. The substantial contribution of young researchers through literature search and data extraction can be performed under the guidance of the research supervisor. Being the highest level of evidence, these studies are more pertinent in the context of the pandemic as they clarify the queries that emerge on a day-to-day basis about pathogenesis, preventive treatment options and prognosis of pandemic diseases.

3) **Digital clinical trials:** During the pandemic, recruitment of participants was seriously hampered in nearly 80% of the trials. Clinical trials can still see the light of the day through online screening and informed consent, physical examination via teleconsultation, home-kit-based sample collection and data collection via mobile device. These adaptations would be expensive, nevertheless promoting organized study conduct despite pandemic chaos.

4) ***In-vitro* studies: Cell line-based studies** can be a prospective field of academic research based on the availability of cell culture laboratories and cell lines at the institutional level. Studies like evaluation of the biological activity of plant extract in specific cell lines can also be persuaded

5) **Follow-up studies**: New research questions or hypotheses can be framed from the completed dissertation or studies in terms of post hoc analysis can also be proposed.

Potential Tactics for the Rejuvenation of Academic Medical Research in the aftermath of a Pandemic.. (Contd)

6) **Collaborative academic research** can be planned at both intra and interdepartmental level. Intradepartmental research can be in such a way that all the members of a postgraduate batch work together and take up responsibility for different parts of it. An example would be in trying to evaluate the anticancer activity of a compound, one student can plan for an *in-vitro* study while others may work on animal models, genomics and compilation of literature and analysis. They can switch over their work every three months so that they may get trained and would have contributed in all aspects. But the practical problems of implementation of teamwork, and authorship issues can make the idea seem to be less feasible.

Inter-institutional collaboration can be planned through COVID care center-based studies. Collaboration with pharmaceutical industries can be also made feasible by providing an opportunity for students in ongoing clinical trials like vaccine trials.

7) **Curriculum-based studies** such as the effectiveness of virtual medical teaching methods can be planned as it helps in refining online teaching as well.

8) **Simulation model-based** approaches can be tried.

9) **Bio standardization studies**: Trying to assess and standardize the activity of a new compound in bioassay, and standardizing a procedure for drug assay can all be useful even for further academic purposes. Again, the question of feasibility will arise in terms of the duration of this study.

10) **Zebrafish-based** studies can be tried as it requires minimal equipment and is often performed with minimal expertise

The medical fraternity is indeed meeting the surging expectations with the new molecule discoveries and breakthrough approvals and vaccine trials. Be it an Omicron or a long COVID or another lockdown in the country, our main success will be in continuing to work with the same grit and guts we had during our war against the virus.

Dr. Subhiksha. S (Senior Resident),
Dr. Indumathi Prabath (Assistant Professor)
SRM Medical College Hospital & Research Centre,
Kattankulathur

Guidelines on Diagnosis and Treatment of Vitiligo

Vitiligo is a common skin condition in which immune mediated destruction of melanocytes occurs. Pale white patches develop on the skin. The most common type is non-segmental vitiligo (NSV) which has a chronic course and results in psychosocial consequences. Early recognition, awareness of comorbidity, precise assessment of disease extent and activity, evaluation of impairment of quality of life and rapid initiation of treatment based on evidence-based therapies are cornerstone in the management of vitiligo.

Investigations: Due to increased prevalence of thyroid diseases, determination of TSH, as well as TPO and TG antibodies is recommended as an initial screening test and then once a year.

Therapy :

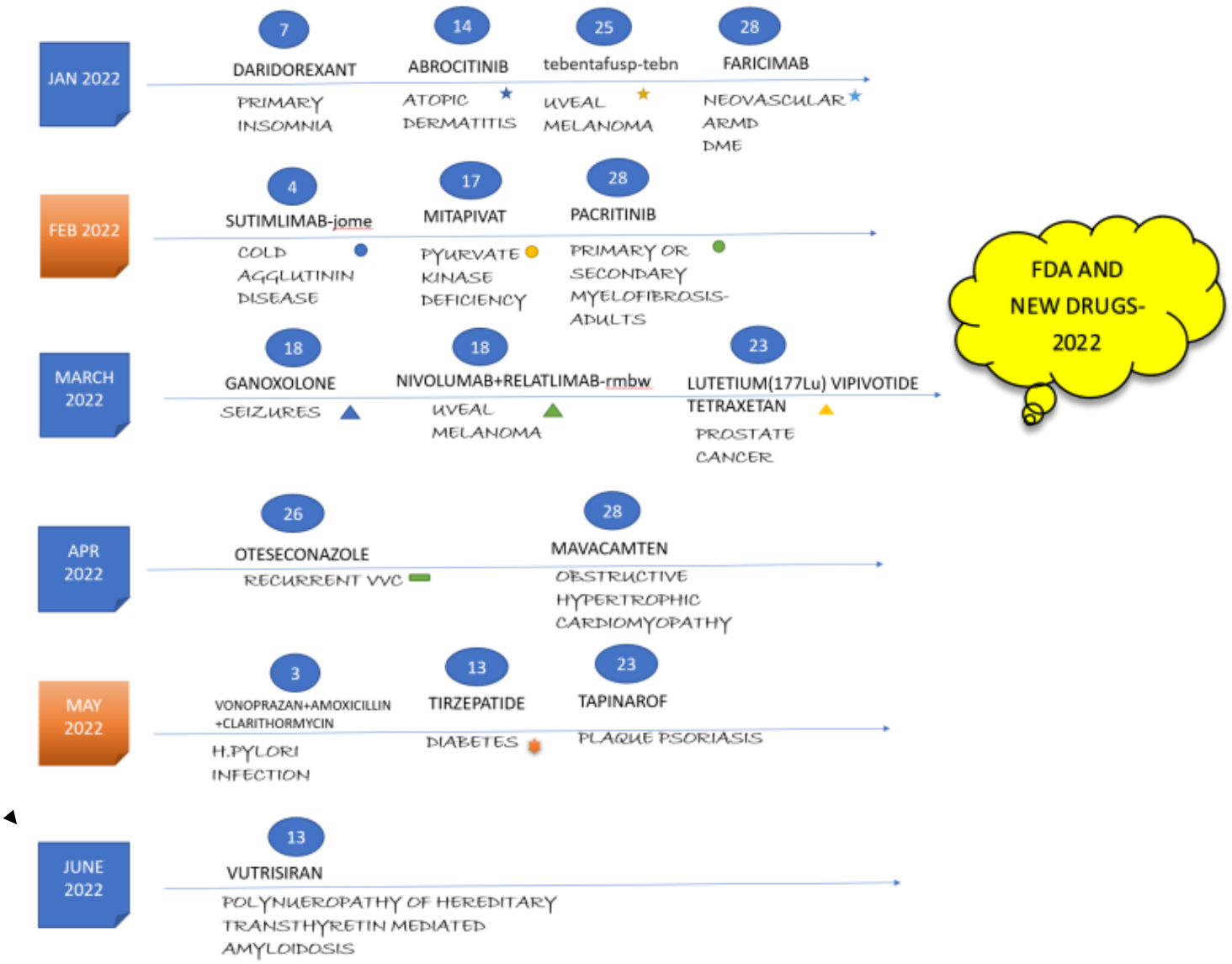
Topical corticosteroids are the first line medications for limited vitiligo and extra facial involvement. Recommended are potent corticosteroids (Class III), such as mometasone furoate, for a period of 3-6 months. This therapy is also suitable for children. Topical Calcineurin Inhibitors are prescribed *off label* as an alternative to topical corticosteroids. They are safe for long term application since they do not trigger skin atrophies compared to topical corticosteroids.

NB-UVB (Narrow Band Ultraviolet B) is indicated for Generalized Vitiligo when topical therapy is no longer feasible and also for active Progressive Vitiligo. NB-UVB are more effective in combination with Topical Corticosteroids or Calcineurin Inhibitors with significant improvement in the face and neck region compared to monotherapy . Also 380nm excimer laser and 380nm excimer lamp therapy have been found to be effective in Vitiligo. Combination with topical and systemic medications (Corticosteroids, Calcineurin Inhibitors) appear to enhance the effect of targeted light therapy. Other measures like oral mini pulse therapy with Corticosteroids (Dexamethasone, Prednisone or Methylprednisolone) also can arrest acute rapidly progressing Vitiligo. Surgical therapies are suitable for therapy resistant vitiligo, especially for segmental and focal vitiligo.

Application of highly potent broad-spectrum sunscreens are also recommended in addition to dermato-cosmetic products, such as creams and sprays, liquid or compact formulations, concealers and fixing sprays for covering of Vitiligo lesions. As the condition is also associated with psychological distress and impairment of quality of life, assessment tools such as *Vitiligo Impact Patient Scale* (VIPs), *Dermatology Life Quality Index* (DLQI), or Vitiligo *Specific Quality-of-Life* questionnaire, can be used for identification of patients benefitting from psychotherapeutic intervention. De-pigmentation is considered in extremely rare cases and after, all the therapeutic options have been considered.

Dr .Priyanka Dhawan
Assistant Professor
Ruxmaniben Deep Chand Gardi Medical College, Ujjain, Madhya Pradesh

Drug Calendar 2022



★	To treat refractory, moderate-to-severe atopic dermatitis
★	To treat unresectable or metastatic uveal melanoma
★	To treat neovascular (wet) aged-related macular degeneration and diabetic macular edema
●	To decrease the need for red blood cell transfusion due to hemolysis in cold agglutinin disease
●	To treat hemolytic anemia in pyruvate kinase deficiency
●	To treat intermediate or high-risk primary or secondary myelofibrosis in adults with low platelets
▲	To treat seizures in cyclin-dependent kinase-like 5 deficiency disorder
▲	To treat unresectable or metastatic melanoma
▲	To treat prostate-specific membrane antigen-positive metastatic castration-resistant prostate cancer following other therapies
▬	To reduce the incidence of recurrent vulvovaginal candidiasis (RVVC) in females with a history of RVVC who are not of reproductive potential
✸	To improve blood sugar control in diabetes, in addition to diet and exercise

Dr.Saravana Kumar, AIIMS, New Delhi.
Dr. Subhiksha S ,SRM Medical College, Chennai

Dostarlimab : Oasis or waterfall

Dostarlimab was the talk of the town for a few weeks from today. And still in some places even the talk continues. Thanks to the clinical trial that showed 100% response with this monoclonal PD-1 inhibitor. The media around the world has highlighted this as the wonder drug for Colon cancer. Of course, there is nothing wrong to be positive. But as a medical Pharmacologist I would like to dig deeper and present my view regarding this trial. This drug which was tried as a neoadjuvant chemotherapy for 6 months followed by radiation therapy in individuals with locally advanced colorectal cancer. The major points to be noted before we rejoice in hope, we should critically look into some of the points discussed below.

The sample size of the study: This was conducted in a group of 16 participants only. So, generalizability is questionable.

Genetic component: Mismatch repair defect need not be there in all cases of colorectal cancer

Endpoints: Periodic assessment was done using MRI sequence, Endoscopic visualization and digital rectal examination were performed. The important aspects to be noted regarding the endpoints are MRI can detect growth only if it is substantial and Endoscopy again has a similar limitation. Digital rectal examination is again very subjective which also requires an experienced medical person to feel the changes. In case of cancer related research, the only concrete evidence to be happy about is the histological cure which is lacking in this study. Of course, there is a good response as the authors themselves suggest there should be maintenance of this remission which was achieved by our drug. And long-term studies are required to assess this clinical entity. The Histological cure should also be assessed only then this could deserve its title of "The Wonder Drug". These facts should be known by everyone as this is just the beginning and a lot of obstacles has to be faced before this wonder drug becomes a reality.

References:

Cercek, Andrea, Melissa Lumish, Jenna Sinopoli, Jill Weiss, Jinru Shia, Michelle Lamendol Essel, Imane H. El Dika, et al. "PD-1 Blockade in Mismatch Repair–Deficient, Locally Advanced Rectal Cancer." *New England Journal of Medicine* 0, no. 0 (June 5, 2022):

Dr. Jefry Winner G,
Junior Resident,
Department of Pharmacology,
JIPMER.

1. ---------- is an Immuno-suppressant which binds with target protein mTOR.

ROMUSSILI

2. ---------- is found to be 100% curative in Choriocarcinoma.

XETATEREMTOH

3. ---------- is a TNF α antagonist as well as immunomodulator.

DOILHATDIME

4. ---------- is used for Prophylaxis of cisplatin induced neuro/nephrotoxicity and radiotherapy related xerostomia.

ITNEFSOAIM

5. .....is a monoclonal antibody which inhibits Vascular Endothelial Growth Factor (VEGF).

ZIECVBAUBMA

6. The Anticancer drug causes Metaphase arrest is ----------.

CISRTNEIINV

7. "Stocking and Glove" neuropathy is an adverse effect of ----------.

XLECILPTAA

8. "Hand foot syndrome" is an adverse effect of ----------.

UROLFLURCIA

9. ---------- are anticancer drugs found to be useful in brain tumors as they are highly lipid soluble.

ROSNIUESATOR

10. Hemorrhagic cystitis is an adverse effect of ----------.

PAMDEIHAPCLYOCOS

Dr. Priestly Vivekkumar, Professor and Head,
Dept .of Pharmacology
Panimalar Medical College Hospital and Research
Poonamallee, Chennai

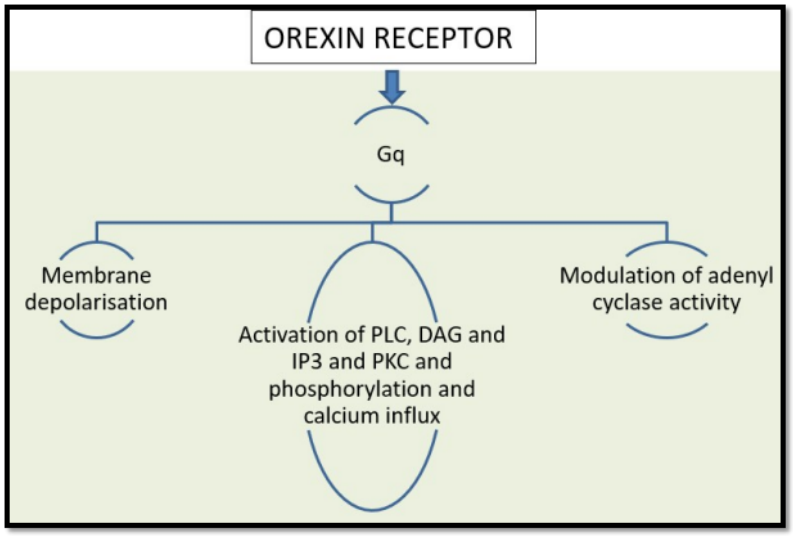
Deridorexant

Want to Sleep .....Dying to Sleep... Can't Sleep... Call DORA !!!

Insomnia:
Insomnia is characterized by difficulty in initiation and maintenance of sleep and impaired day- time functioning. Current therapy for insomnia includes both pharmacological & nonpharmacological interventions but limitations arise for the pharmacological treatments owing to their adverse effects. Orexins are found to promote arousal by regulating sleep alertness pathways and hence orexin antagonists are being considered as a promising choice because of their favorable adverse effect profile.

Orexins:
Orexins are neuropeptides produced in hypothalamus that stimulate specific type of GPCR called as orexin receptors (OX1R and OX2R). The orexin neuropeptide signaling system plays a role in wakefulness.

Orexin signaling pathway:



Dosage:	Tablets: 25 mg, 50 mg.
Adverse effect:	Headache and Somnolence or fatigue (Day time impairment) Sleep Paralysis, Hypnagogic/Hypnopompic Hallucinations Cataplexy-like Symptoms
Drug interactions:	Strong CYP3A4 inhibitors

Medication Guide:
Only in the evening within 30 minutes before going to bed and only if they can stay in bed for a full night (at least 7 hours).
Effect may be delayed if taken with or soon after a meal

Dr. Abdul Rasheed Razia
MelMaruvathur Adhiparasakthi Institute of Medical Sciences
MelMaruthur, (TN)

NAPTICON 2022

National Conference of

National Association of Pharmacology & Therapeutics

28-29th October 2022

www.napticon2022.com

Organized by

Department of Pharmacology

Father Muller Medical College

Mangalore, Karnataka

Welcome to NAPTICON 2022

Dear members of the Pharmacology family,

It is a matter of great honor that the Department of Pharmacology, Father Muller Medical College Mangalore, is going to host the Ist National Annual Conference of National Association of Pharmacology & Therapeutics on 28th - 29th October 2022. There will also be pre-conference workshop on 27th October 2022. The theme of the conference is “Pharmacology expertise for changing times”.

On behalf of the organizing committee, I extend a hearty welcome to Mangalore city, the ‘Land of Beautiful Beaches’

A scientific feast awaits you, with eminent speakers & giants in the field of pharmacology, clinical pharmacology and therapeutics.

Besides, with the traditional hospitality of the our place, we will ensure that your culinary & entertainment needs are well taken care of, so that you go back with fond memories of this conference

With sincere regards,
Dr. Padmaja Udaykumar
Organizing Secretary,
NAPTICON - 2022.

The venue: Father Muller Convention Center

The organizing committee

Patrons

Rev. Fr Richard Aloysius Coelho
Director

Rev. Fr Ajith B. Menezes
Administrator

Fr. Nelson D Pais
Assistant Administrator

Fr. George Jeevan Sequera
Assistant Administrator

Dr. Uday Kumar K
Medical Superintendent

Dr. Antony Sylvan D'Souza
Organizing Chairman

Dr. Padmaja Udaykumar
Organizing Secretary

Dr. Chandralekha N
Joint Organizing Secretary

Dr. Nicole Pereira
Joint Organizing Secretary

Dr. Scandashree K
Chairperson,
Scientific Committee

Dr. Vinitha K
Co Chairperson,
Scientific Committee

Dr. Mangala S
Finance Secretary

Dr. Vijayalaxmi MK
Registration and Reception

NAPTICON 2022

28th-29th October 22

Attention MD Pharmacology Postgraduates

Golden opportunity

for Paper/Poster presentation
of your research work
at national conference

as per the guidelines of
National Medical Commission New Delhi

NAPTICON 2022

National Conference of
National Association of Pharmacology & Therapeutics

28-29th October 2022

log on for more details
www.napticon2022.com

Organized by
Department of Pharmacology
Father Muller Medical College
Mangalore, Karnataka

NAPTICON 2022

First Annual National Conference of National Association of Pharmacology & Therapeutics

Organized by: Department of Pharmacology, Father Muller Medical College, Mangaluru.

Date: 28th and 29th October 2022 | Venue: Father Muller Convention Center, Mangaluru.

Registration Details

Category	Early bird till 31st July 2022	1st August 2022 Onwards	Spot Registration
NPT Members	Rs. 3,500/-	Rs. 4,000/-	Rs. 6,000/-
Post Graduates	Rs. 3,200/-	Rs. 3,700/-	Rs. 5,700/-
Non Members	Rs. 4,000/-	Rs. 4,500/-	Rs. 6,500/-
Accompanying Person (Above 12 Year)	Rs. 2,500/-	Rs. 2,500/-	Rs. 2,500/-

Workshop Registration : Rs. 1,200/-

Highlights of NAPTICON 2022

- Scientific Presentations
- Skill Based Training (Pre Conference Workshop)
- Young Pharmacologists Speak
- Plenary Sessions
- Panel Discussion

For more details Please visit :

www.napticon2022.com

EXTRACT

Source: Group discussion NMDP

What is EXTRACT

Extract are the collections of some important points taken from the discussion in National MD Pharmacology group. NMDP is a group of eminent pharmacologists from all over the country. The head of departments of pharmacology, deans, directors of institutions and people with significant contribution in the field of pharmacology are members of NMDP family. National association of Pharmacology and Therapeutics is promoted by NMDP group.

 # National Pharmaceutical Pricing Authority has fixed the retail price of 84 drug formulations: NPPA released the list on 30th June 2022 and it is available online.

 # Proposal to include Over the Counter drugs: Union Govt has proposed a list of 16 drugs, whose sale will be allowed in retail market without Doctor's prescription.

 # Confusing Brand Names: Delhi High Court has recently issued notice to DCGI seeking clarification regarding steps taken to ensure that medicines with identical brand names and packaging are not allowed to be manufactured and marketed in India. Identical brand names and packaging can lead to medication errors. Need of the hour is to have a separate wing under CDSCO to approve drug brand names to be marketed.

 # NMC has invited applications: For starting new medical colleges, increase of seats and renewal of courses pending for recognitions for academic year 2023-24 from 21.07.2022 to 10.08.20222.

 # NMC will accept leaves during inspection due to following reasons: 1. For attending National/ International conferences 2. For work assigned by NMC 3. For conducting examination 4. For attending courts.

 # IAEC is mandatory if a medical college has animal house: IAEC has to conduct meeting twice a year even if there are no projects and no animals. Also sitting fees has to be paid to CPCSEA Nominee and external members.

 # Department of Emergency Medicine: Mandatory for all medical colleges with effect from the academic year 2022-2023. Due to lack of availability of MD Emergency Medicine, MD/MS/DNB in General Medicine, Anaesthesia, Respiratory Medicine, General Surgery and Orthopaedics can be appointed in the transition period.

 # Vonoprazan based dual and triple anti-H.Pylori regimens approved: Vonoprazan has a potency of inhibition 350 times higher than PPIs. It acts in a potassium inhibitory manner.

 # Drug Interaction checker apps: Drugs.com and Medscape (free) and Lexicomp (paid).

 # NEFI sixth addition is available for purchase: It can be purchased through IPC home page E-service order books online for Rs. 660/-.

Source: Group discussion NMDP

 # Declaration of Conflict of Interest (COI): If a teacher is in-charge of Clinical trial unit in an institute as well as Member Secretary of IEC of same institute, he/she needs to declare COI and refrain from voting process for the trial's decision of which he/she is part of research team.

 # NPTEL Online certification course on Health Promotion and Medical Intervention: PG medicos can apply for this course.

 # Eligibility for being designated as PG guide: Post PG experience of 5 years and above in the concerned broad speciality.

#NMDP Activities of this quarter: Life time achievement award of NPT will be given in the upcoming conference to honour medical pharmacologist who has shown lifelong commitment for upliftment of subject and a new whatsapp group for young faculty members and P.G. students have been started.

 # 5 Indian Institutes are rated among the top 100 of the world : The list of top institutes of the world includes AIIMS, New Delhi and CMC, Vellore.

 # ICMR Ethics Committee Guidelines : 4.4.4 EC Members may be given a reasonable honorarium for attendance at the meeting (Page No. 31).

 # COVID vaccine for 5-12 year : Govt panel approves use of Corbevax for 5-12 year age group

 # Warning on Antacid package inserts : To Promote patient safety Antacids will carry a warning of 'Acute Kidney Injury' in their package inserts.

 # BCBR course compulsory for promotions after Feb 2022 : Minimun Qualifications for teachers in Medical Institutions Regulations: Faculty promoted after Feb 2022 should have completed BCBR Course.

 # NMC Yoga training for U.G.s : NMC has launched Yoga Training Programme for Medical students.

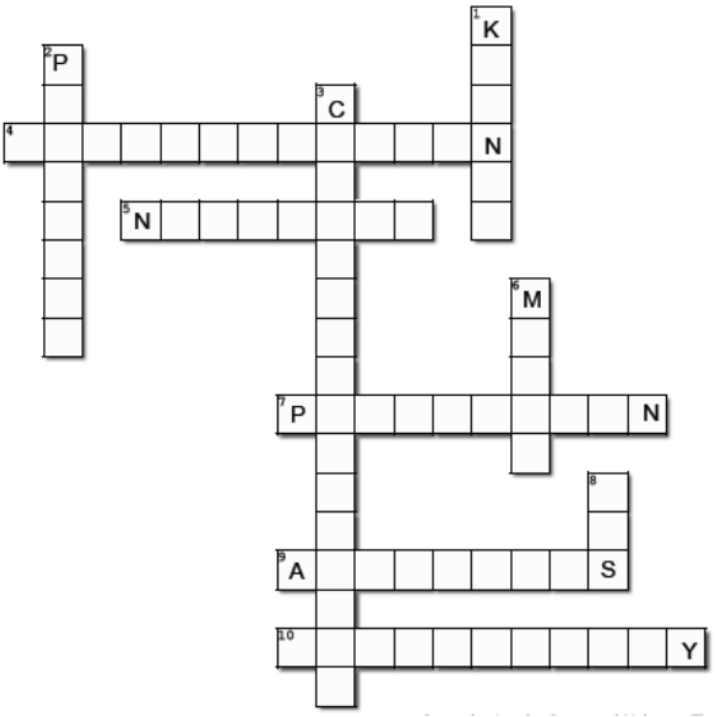
 # Promising results of Dostarlimab in trials on rectal cancer patients : Dostarlimab, Immunoglobulin G4 Humanised Monoclonal Antibody which acts against programmed cell death receptor 1 found on T cell, was used for 6 months in 18 rectal cancer patients. Dostarlimab cured all the patients in trial.

Compiled by:

Dr Ruchi Baghel
Associate Professor
Department of Pharmacology RDG Medical College, Ujjain, Madhya Pradesh

CROSSWORD (Macrolides)

Dr Divya Shanthi (Assistant Professor)
Dr Dhivya Elango M (Senior Resident) ,
Department of Pharmacology, JIPMER Puducherry



Down

1. Aminoglycosides are excreted through_____.

2. Aminoglycosides produce nephrotoxicity by damaging which tubular cells____.

3. Neuromuscular blockade induced by aminoglycosides can be reversed by Intravenous _____.

6. Aminoglycosides that are derived from streptomyces ends with_____.

8. Aminoglycosides bind to _____ ribosomal sub-unit to inhibit protein synthesis.

Across

4. Aminoglycosides are bactericidal and exhibits _____ dependent killing.

5. Aminoglycosides used for hepatic coma and gut serialization is_____.

7. Newer aminoglycoside derived from Sisomicin is _____.

9. Aminoglycosides are ineffective against_____.

10. Tinnitus and Vertigo in a patient on Aminoglycosides is a feature of_____

Answers for Crossword on next page

From the book: **"Drug Autobiographies in Pharmacology"**
Dr. Sushil Sharma

Amazing drug molecules With Dose Dependent Actions

Drug molecules exerting different actions which are dose dependent are clinically important for either their therapeutic indication (s) or untoward ADRs.

Drug	Dose	Action(s)	Remark(s)
Dopamine	1 -2 mcg/kg/min	**D_1** Receptor Agonism	Renal Vasodilatation
	2 -10 mcg/kg/min	**β_1** Receptor Agonism	+Ve Chronotropy & +Ve Ionotropy
	>10 mcg/kg/min	**α_1** Receptor Agonism	Vasoconstriction
Aspirin	80-325 mg/d	Antiplatelet	Selective *TXA_2* [-]
	324-1000 mg; 4 -6 H	Antipyretic & Analgesic	
	1000 mg; 4 -6 H	Rheumatic fever	
	3000- 4000 mg/d in DD	Anti-inflammatory	
	≤2600 mg/d	Hyperuricaemia	(↑) Renal retention of Uric acid
	≥3600 mg/d	Hypouricaemia; Anti-gout	(↑) Renal excretion of Uric acid
Atropine	Therapeutic Dose	Tachycardia	Anti-cholinergic action
	Low Dose	Bradycardia	Central action; Stimulation of dorsal motor nucleus of vagus
Hyoscine	Low Dose	CNS depression	
	High Dose	CNS excitation	
Nicotine	Low Dose	Ganglionic stimulant	(↓) HR, (↑) BP
	High Dose	Ganglionic blocker	(↑) HR, (↓) BP
Anti-chE	Low Dose	Ganglionic stimulant	(↓) HR, (↑) BP
	High Dose	Ganglionic blocker	(↑) HR, (↓) BP
PTH	Low Dose [***Intermittently***]	(↑) Bone formation	
	High Dose [***Continuously***]	(↑) Bone resorption	Activation of osteoclasts
GnRH & Its Analogs	Pulsatile [***Intermittent***] administration	Stimulates Gonadotrophs	(↑) LH & FSH
	Non-Pulsatile [***Continuous***] administration	Inhibits Gonadotrophs	(↓) LH & FSH
Quinolones	Low Dose	Gram –ve microorganisms	
	High Dose	Gram +ve microorganisms	

***DD:** Divided Doses; **PTH:** Parathyroid Hormone; **Anti-chE:** Anti-cholinesterases;

References:

Goodman and Gilman's.
The Pharmacological basis of Therapeutics 13th Ed

Dr. Madhavrao
Associate Professor
Dept of Pharmacology,
All India Institute of Medical Sciences
Mangalagiri, (AP)

Answers to Crossword

Q.No	Down	Q.No	Across
1.	Kidney	4.	Concentration
2.	Proximal	5.	Neomycin
3.	Calcium gluconate	7.	Plazomicin
6.	Mycin	9.	Anaerobes
8.	30S	10.	Ototoxicity

NATIONAL ASSOCIATION OF PHARMACOLOGY AND THERAPEUTICS

Promoting Pharmacology and Therapeutics for a better tomorrow

www.nationalpharmacology.org

About the organization

A national organization of medical doctors specialized in pharmacology /clinical pharmacology and therapeutics. Envisaged to provide strong leadership to promote pharmacology and therapeutics for a better tomorrow. The association is fostered by NMDP (National MD Pharmacology), a prestigious group of eminent pharmacologists.

Aims and objectives

- Empowering medical doctors specialized in Pharmacology/Clinical Pharmacology and Therapeutics.
- Promoting academic and clinical research in Pharmacology/Clinical Pharmacology and Therapeutics.
- Enhancing the standard of teaching/training in Pharmacology/Clinical Pharmacology and Therapeutics
- Promoting Pharmacology/Clinical Pharmacology and Therapeutics for the benefit of patients and society.


NATIONAL ASSOCIATION OF PHARMACOLOGY AND THERAPEUTICS

CERTIFICATE OF LIFE MEMBERSHIP

Has been awarded with this mark of honour and certificate of life membership after having fulfilled all the requirements set forth by accreditation board of the assoication

Dr. Padmaja Udaykumar
PRESIDENT

Dr. R.K. Dixit
GENERAL SECRETARY

Dr. F. A. Khan
HEAD ACCREDITATION BOARD

Reference No.

Dated

BENEFITS OF LIFE MEMBERS

- Receive notifications on of the organization
- Keep yourself updated in the world of pharmacology and therapeutics .
- Get connected with fellow pharmacologists of the country.
- Contest for various posts in the organization.
- Receive of the permanent membership e-certificate through email, enhance your profile by writing MNPT
- Participate in general body meetings (GBM) to speak and to vote.
- Participate in conferences/seminars/workshops/symposiums/training sessions at subscribed charges.
- Receive an e-copy of the official publications (i.e. News letter, Journal, academics, research material etc.

NATIONAL ASSOCIATION OF PHARMACOLOGY AND THERAPEUTICS

Promoting Pharmacology and Therapeutics for a better tomorrow

Join the league of elite pharmacologists

How to become a permanent member

Go to website

www.nationalpharmacology.org

Click on join now

Membership fee Rs. 2000 INR (Indian Nationals) 250 USD (Foreign nationals)

For more details queries WhatsApp 9528540756

Dr. C. M Kamaal
National Coordinator (NPT)
Professor and Head
Department of Pharmacology
SMMH Govt. Medical College Saharanpur, Uttar Pradesh

Rx FACTOR

A triennially published newsletter by National Association of Pharmacology & Therapeutics (all rights reserved)

RxFactor is published triennially in April, August and December. RX Factor is published in an electronic format, as a universally compatible PDF file. Easy to read, you can zoom in, zoom out, search for text, send by email, and print as many copies as you like.

NATIONAL ASSOCIATION OF PHARMACOLOGY AND THERAPEUTICS

Reg No 58-10-03-2021 PAN No: AADTN6634Q

REGISTERED OFFICE:
ALMERAJ Hospital Deepshikha Gas agency street, Bajoria Road
Saharanpur , Uttar Pradesh 247001, Ph 9528540756

REGIONAL OFFICE:
Department of Pharmacology,
Father Muller Medical College Kakanady , Mangalore, Karnataka

www.nationalpharmacology.org

Mail: office@nationalpharmacology.org