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## *Upper Respiratory Infection Leading to Retropharyngeal Abscess*

Retropharyngeal abscess is the formation of pus in the retropharyngeal space at the back of the throat, which usually begins from lymph nodes. Retropharyngeal abscess occurs as a frequent complication of Upper Respiratory Tract Infection (URI). It is commonly found in children of age between 6 months to 6 years, with the highest incidence among children less than 5 years old, with male predominance. It is seen as a frequent complication of upper respiratory infection (URI) and is commonly seen in low-income settings where access to antibiotics is restricted.

Other etiologies of retropharyngeal abscess are dental infection, bacterial infection mainly Group A beta-hemolytic streptococci (*Streptococcus aureus*), *Mycobacterium tuberculosis*, *Fusobacterium*, *Veillonella*, *Hemophilus parainfluenza*, poor oral hygiene, and immune dysfunction (i.e., HIV, immunosuppression). The use of instruments for laryngoscopy, endoscopy, endotracheal intubation, feeding tube insertion head, and neck injury, and dental surgery may also increase the risk of pus formation in the retropharyngeal space.

The clinical manifestations include neck mass (91%), fever (86%), cervical lymphadenopathy (83%), neck stiffness (59%), agitation (43%), cough (33%), drooling (22%), torticollis (18%), respiratory distress (4%), stridor (3%) and with signs of tonsillitis, pharyngitis, and otitis media.

Diagnosis of retropharyngeal abscess includes a physical examination, assessment of fever, and cervical lymphadenopathy. The laboratory investigations include complete blood count, Mantoux test, gram staining, radiography (X-ray), computed tomography (CT) scan, magnetic resonance imaging (MRI), ultrasonography, throat swab culture, and biopsy. Oral hygiene should be maintained to prevent later complications.

Retropharyngeal abscess exists in two types, acute and chronic. An acute abscess is commonly found in young children due to upper respiratory tract infections, while in adults, foreign bodies in gestation, endoscopy, and external penetrating injury are the main causes.

Chronic conditions occur in older children and adults who developed tuberculosis of the cervical spine. The pathophysiology includes the infection in the retropharyngeal space either from an infectious area or directly from an injury by Group A beta-hemolytic streptococci (*Streptococcus aureus*), *Mycobacterium tuberculosis*, *Fusobacterium*, *Veillonella*, *Hemophilus parainfluenza*.

The pertinent diagnostic testing includes complete blood count - especially WBC counts can be elevated, Mantoux test, gram staining, X-ray and CT scan, According to the UCSF (University of California, San Francisco) Pediatric Guidelines of Head and Neck Infections-Peritonsillar/Retropharyngeal Abscess 2013, when the child is presented with a neck mass, examination for the mass size should be done. If the mass is more than 2mm malignancy, surgery may be required, and if the mass is less than 2mm, the patient should be given antibiotics for 10 days.

Before starting antibiotic treatment, investigations such as X-ray, CT scan, and sputum culture should be performed. For inpatients, ampicillin-sulbactam 50 mg/kg/dose IV twice a day or clindamycin 10 mg/kg/dose PO/IV twice a day can be used as the first-line drug of choice for 10 days.

### REFERENCES:

1. Abdel-Haq, N., Quezada, M., Asmar, B. I. 2012. Retropharyngeal Abscess in Children. *The Pediatric Infectious Disease Journal*, 31(7):696-699.
2. Craig, F.W., Schunk, J.E. 2003. Retropharyngeal Abscess in Children: Clinical Presentation, Utility of Imaging, and Current Management. *Pediatrics*, 111(6):1394-1398.
3. Grisarso-Soen, G., Komisar, O., Aizenstein, O., Soudack, M., Schwartz, D., Paret, G. 2010. Retropharyngeal and parapharyngeal abscess in children-Epidemiology, clinical features, and treatment. *International Journal of Pediatric Otorhinolaryngology*, 74(9):1016-1020.
4. Harkani, A., Hassani, R., Ziad, T., Aderdour, L., Nouri, H., Rochdi, Y., Raji, A. 2011. Retropharyngeal Abscess in Adults: Five Case Reports and Review of the Literature. *The Scientific World Journal*, 11:1623-1629.
5. Maroldi, R., Farina, D., Ravanelli, M., Lombardi, D., Nicolai, P. 2012. Emergency Imaging Assessment of Deep Neck Space Infections. *Seminars in Ultrasound, CT, and MRI*, 33:432-442.
6. Mydam, J., Thiagarajan, P. 2009. A nine-month-old child with retropharyngeal abscess secondary to mastoid abscess presenting as torticollis: a case report. *Cases Journal*, 2(1).
7. Sinha, S., Ekka, M. 2015. Retropharyngeal abscess as a rare presentation of pulmonary tuberculosis. *Lung India*, 32(3).
8. UCSF 2013. Pediatric Guidelines: Head and Neck Infections-Peritonsillar /Retropharyngeal Abscess, Infectious Disease Management Program at UCSF, Regents of University of California.

### INSIDE THIS ISSUE

CONTENTS	Pg. No
Upper Respiratory Infection Leading to Retropharyngeal Abscess	1
Periodontitis and risk of diabetes in the Atherosclerosis Risk in Communities (ARIC) Study: A BMI-modified association	2
Drug Profile ATOGEPANT	3
Event Corner	4 - 5
Publications from the Department of Pharmacy Practice	6
A Glimpse of National Pharmacovigilance Week Celebrations	6
Alumni Interaction Series "Bridging the gap - Connecting the World"	7 - 8

# Periodontitis and risk of diabetes in the Atherosclerosis Risk in Communities (ARIC) Study: A BMI-modified association

Periodontal disease, obesity, and diabetes are strongly linked. Based on a recent meta-analysis, a nonsurgical oral plaque elimination treatment of periodontitis patients with diabetes resulted in a significant overall 0.56% A1c reduction. Studies have generally shown that individuals with normal glucose tolerance and periodontitis are more likely to develop diabetes than subjects with shallow periodontal probing depths. Body mass index (BMI) and inflammation are well-defined risk factors for diabetes. Studies indicate that BMI may modify the associations between inflammatory markers and incident diabetes. Body mass index (BMI) and inflammation are well-defined risk factors for diabetes. Studies indicate that BMI may modify the associations between inflammatory markers and incident diabetes. Clinical, epidemiological and basic science research have demonstrated a clear quantifiable inflammation-mediated association between obesity and periodontal disease. Some prospective studies demonstrated that high BMI is a risk factor for periodontal disease. According to several meta-analyses, overweight and obesity were significantly associated with periodontitis. The risk-modifying effect of BMI on periodontal disease for developing diabetes was also suggested in several clinical intervention studies reporting that the nonsurgical periodontal therapy for periodontitis patients with diabetes achieved better diabetic control, as measured by A1c reduction, in patients with lower BMI than higher BMI.

Zhang *et al.*, United States of America, recently conducted and published a study in the *Journal of Clinical Endocrinology and Metabolism*. The main purpose of the study was to determine whether periodontal disease is positively associated with incident diabetes across the continuum of body mass levels (BMI) and test the hypothesis that the periodontal risk for incident diabetes is modified by BMI.

Study included 5569 diabetes-free participants from Visit 4 (1996-1998) of the Atherosclerosis Risk in Communities study and followed them until 2018. Periodontal disease status was classified by periodontal profile class (PPC)-Stages, and incident diabetes was based on participant report of physician diagnosis. Research team also estimated the hazard ratios (HR) for diabetes using a competing risk model for each PPC-Stage. Research team assessed multiplicative interactions between periodontal disease and BMI (as a continuous variable) on risk of diabetes. During a median time of 19.4 years of follow-up, 1348 incident diabetes cases and 1529 deaths occurred. Compared to the "Health/Incidental Disease" stage, participants with PPC "Severe Periodontal Disease" or "Severe Tooth Loss" stage and lower BMI had elevated risk for diabetes adjusting for demographic, smoking, education, and biological variables when accounting for death as a competing risk with HRs of 1.76 (95% CI 1.10-2.80) and 2.11 (95% CI 1.46-3.04), respectively.

The interaction between PPC-Stages and BMI was significant ( $P = 0.01$ ). No significant associations of PPC-Stages with incident diabetes were present when BMI was above 31 kg/m<sup>2</sup>. Study reported that Periodontal disease was associated with incident diabetes, especially in nonobese participants. Dentists should be aware that periodontal disease is associated with incident diabetes but the association may be modified for patient's at higher BMI levels.

## REFERENCES:

Zhang S, Philips KH, Moss K, Wu D, Adam HS, Selvin E, Demmer RT, Norby FL, Mustapha IZ, Beck JD. Periodontitis and Risk of Diabetes in the Atherosclerosis Risk In Communities (ARIC) Study: A BMI-modified Association. *The Journal of Clinical Endocrinology & Metabolism*. 2021;106 (09): e3546–e3558.

Arboleda S, Vargas M, Losada S, Pinto A. Review of obesity and periodontitis: an epidemiological view. *Br Dent J*. 2019;227(3):235-239.

Saito T, Shimazaki Y, Kiyohara Y, et al. The severity of periodontal disease is associated with the development of glucose intolerance in non-diabetics: the Hisayama study. *J Dent Res*. 2004;83(6):485-490.

Vazquez G, Duval S, Jacobs DR Jr, Silventoinen K. Comparison of body mass index, waist circumference, and waist/hip ratio in predicting incident diabetes: a meta-analysis. *Epidemiol Rev*. 2007;29:115-128.

Liu C, Feng X, Li Q, Wang Y, Li Q, Hua M. Adiponectin, TNF- $\alpha$  and inflammatory cytokines and risk of type 2 diabetes: a systematic review and meta-analysis. *Cytokine*. 2016;86:100-109.

Jimenez M, Hu FB, Marino M, Li Y, Joshipura KJ. Prospective associations between measures of adiposity and periodontal disease. *Obesity (Silver Spring)*. 2012;20(8):1718-1725.

Morelli T, Moss KL, Beck J, et al. Derivation and validation of the periodontal and tooth profile classification system for patient stratification. *J Periodontol*. 2017;88(2):153-165.



## INTERNS' CORNER



## INTERNS' CORNER



# DRUG PROFILE

## ATOGEPANT

**Class:**  
Calcitonin Gene-Related Peptide Receptor Antagonist

**Indication:**  
Atogepant is indicated for the preventive treatment of episodic migraine in adults.

**Mechanism of Action:**  
Atogepant is Calcitonin gene-related peptide (CGRP) receptor antagonist. Atogepant binds to CGRP receptor, which is thought to be involved in migraine pathophysiology.

**Dosage form and Administration:**  
Atogepant is available as 10mg, 30mg and 60mg tablets which are white to off-white, round biconvex tablets.

- 10 mg tablets are debossed with "A" and "10" on one side.
- 30 mg tablets are debossed with "A30" on one side.
- 60 mg tablets are debossed with "A60" on one side.

The recommended dosage of Atogepant is 10 mg, 30 mg, or 60 mg taken orally once daily with or without food. Drug should be stored in temperatures between 20-25°C.

**Dosing in Renal & Hepatic Impairment:**  
No dose adjustment of Atogepant is recommended for patients with mild or moderate hepatic impairment. It is suggested to avoid use of Atogepant in patients with severe hepatic impairment. No dose adjustment is recommended for patients with mild or moderate renal impairment. In patients with severe renal impairment (CLcr 15-29 mL/min), and in patients with end-stage renal disease (CLcr < 15 mL/min), the recommended dosage of Atogepant is 10 mg once daily. For patients with ESRD undergoing intermittent dialysis, drug should preferably be taken after dialysis.

**Pharmacokinetics:**  
Following oral administration, Atogepant is absorbed with peak plasma concentrations at approximately 1 to 2 hours. Following once daily dosing, Atogepant displays dose-proportional pharmacokinetics up to 170 mg (approximately 3 times the highest recommended dosage), with no accumulation. When Atogepant was administered with high fat meal, the food effect was not significant. Plasma protein binding of Atogepant was not concentration-dependent in the range of 0.1 to 10µM; the unbound fraction of Atogepant was approximately 4.7% in human plasma. The mean apparent volume of distribution of Atogepant after oral administration is approximately 292 L. Atogepant is eliminated mainly through metabolism, primarily by CYP3A4. The parent compound, and a glucuronide conjugate metabolite (M23) were the most prevalent circulating components in human plasma. The elimination half-life of Atogepant is approximately 11 hours. The mean apparent oral clearance of Atogepant is approximately 19 L/hr. About 42% and 5% of the dose was recovered as unchanged in feces and urine, respectively.



**Adverse Reactions:**  
Nausea (5-9%), Constipation (6%), Fatigue/somnolence (4-6%), Decreased weight (3.2-4.9%), Decreased appetite (1-2%), Elevated AST/ALT (1%), Constipation (0.5%), Nausea (0.5%).

**Contraindications:**  
*There are no contraindications suggested for Atogepant.*

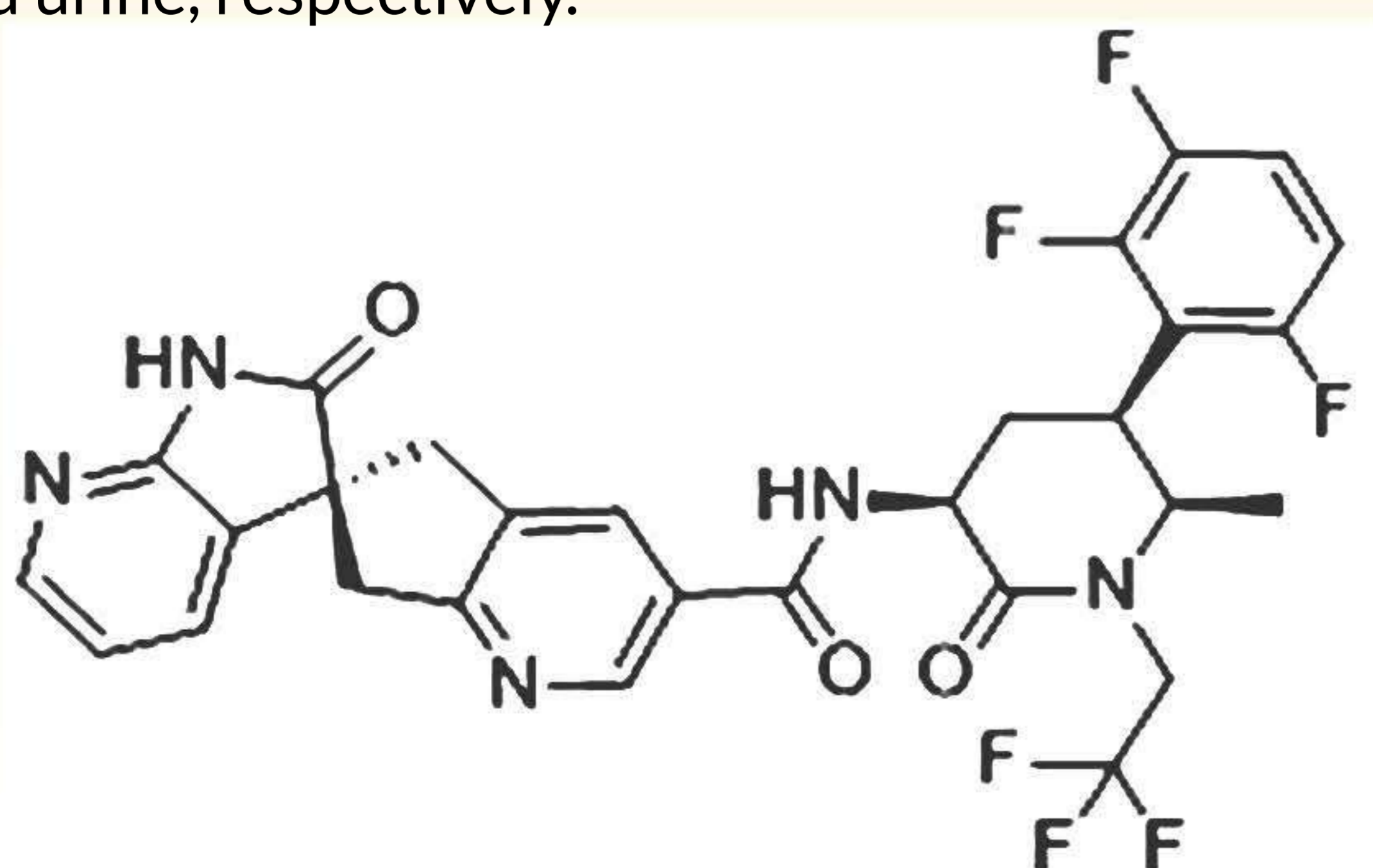
**Precautions:**  
Safety and effectiveness in paediatric patients have not been established.

**Drug Interactions:**

- Coadministration of Atogepant with itraconazole, a strong CYP3A4 inhibitor, results in a significant increase in exposure of atogepant in healthy subjects. The recommended dosage of Atogepant with concomitant use of strong CYP3A4 inhibitors (Eg: Ketoconazole, Itraconazole, Clarithromycin) is 10 mg once daily.
- Coadministration of Atogepant with Rifampin, a strong CYP3A4 inducer, results in a significant decrease in exposure of Atogepant in healthy subjects. The recommended dosage of Atogepant with concomitant use of strong or moderate CYP3A4 inducers (Eg: Rifampin, Carbamazepine, Phenytoin, St. John's wort, Efavirenz, Etravirine) is 30 mg or 60 mg once daily.
- Coadministration of Atogepant with single dose Rifampin, an OATP inhibitor, results in a significant increase in exposure of Atogepant in healthy subjects. The recommended dosage of Atogepant with concomitant use of OATP inhibitors (Eg: Cyclosporine) is 10 mg or 30 mg once daily.

**Reference:**  
USFDA Access data for the drug Atogepant (Available from the URL): [https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2021/215206Orig1s000lbl.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/label/2021/215206Orig1s000lbl.pdf)

Abbvie Official website (Available from the URL): <https://www.abbvie.com/our-science/pipeline/atogepant.html>



**GET YOUR COVID-19 VACCINE!**



## EVENT CORNER

Dr M Deepalakshmi, Dr J Jeyaram Bharathi, Faculty, Department of Pharmacy Practice participated in the conference on 'Molecular Neuroscience: From cells to circuits in health disease Phase-III: Preclinical and Clinical Aspects in Molecular neuroscience' organized by Seven Hills College of Pharmacy, Tirupati between 28/06/2021 to 03/07/2021.

Dr S Ponnusankar, Faculty, Department of Pharmacy Practice, participated in 'Webinar on Professional Planning: the way forward' organized by JSS Dental College & Hospital, Mysuru on 02/07/2021 and 03/07/2021.

Dr S Ponnusankar, Dr K P Arun, Dr M Deepalakshmi, Dr. Keerthana C, Dr Aneena Suresh, Mr Vishwas H N, Dr J Jeyaram Bharathi, Faculty, Department of Pharmacy Practice, participated in 'Webinar on COVID -19 vaccines and variants: time to get back to normalcy' organized by JSS Academy of Higher Education and Research, Mauritius on 02/07/2021.

Dr G K Sadagoban, Asst. Professor, Department of Pharmacy Practice acted as a Resource person and delivered a talk on 'PharmD Experiential Education During COVID Crisis - An Overview' during the National conference entitled 'Strategies for a Prolific Pharm D Internship Experience in Covid-19 Pandemic' organized by Department of Pharmacy Practice, Vignan College of Pharmacy, Guntur, Andhra Pradesh on 08/07/2021.

Mr Vishwas H N, Lecturer, Department of Pharmacy Practice acted as a Resource person and delivered talk on 'Internship activities during the Pandemic-Enhancing the Student competence' during the National Webinar on 'Strategies for a Prolific Pharm D Internship experience in COVID-19 Pandemic: Students and Preceptor's perspective' organized by Vignan Group of Institutions, Guntur, Andhra Pradesh, India on 08/07/2021.

Dr Swathi Swaroopa B, Asst. Professor, Department of Pharmacy Practice participated in webinar entitled 'Strategies for a Prolific Pharm D Internship Experience in COVID-19 Pandemic' organized by Department of Pharmacy Practice, Vignan College of Pharmacy, Guntur, Andhra Pradesh on 08/07/2021.

Dr Keerthana C, Resident, Department of Pharmacy Practice participated in webinar on "Impact of Artificial Intelligence in Drug Discovery" organized by Department of Pharmaceutical Chemistry, JSS College of Pharmacy, Ooty on 10/07/2021.

Dr G K Sadagoban, Asst. Professor, Department of Pharmacy Practice acted as a Resource person and delivered a talk on 'PharmD Experiential Education During COVID Crisis - An Overview' during the FDP - Short Term Training Programme (STTP) on New Horizons in Pharmaceutical Industry and Health Care: Rediscovering Indian Traditional System of Medicine Through Novel Approach organized by Department of Pharmacy Practice, Al shifa College of Pharmacy, Mallapuram, Kerala on 12/07/2021.

Dr Swathi Swaroopa B, Asst. Professor, Department of Pharmacy Practice participated in AICTE sponsored Short Term Training Program on 'Perspective and Challenges in teaching methodologies of clinical practice and research for teachers' organized by Al Shifa College of Pharmacy, Perinthalmanna, Kerala under AICTE Training and Learning Academy Program (ATAL), organised by Department of Pharmacy Practice between 12/07/2021 to 17/07/2021.

Dr. S Ponnusankar, Mr Vishwas H N, Faculty, Department of Pharmacy Practice participated in the webinar entitled 'Electronic medication record and digitalization in healthcare' organized by Department of Health system Management studies & Centre for Distance and Online Education, JSS Academy of Higher Education & Research, Mysuru on 16/07/2021.

Dr. S Ponnusankar, Department of Pharmacy Practice participated in the webinar entitled 'Chemical plaque control: busting the myths' Organized by J S S Dental College & Hospital, Mysuru on 16/07/2021.

Mr Vishwas H N, Lecturer, Department of Pharmacy Practice participated in "5-Day National virtual Faculty Development Program on 'COVID-19 Pandemic & Global health" organized by Department of Pharmacy, Chaitanya (Deemed to be University), Hanamkonda, Warangal, Telangana, India between 16/07/2021 to 20/07/2021.

Dr G K Sadagoban, Dr Swathi Swaroopa B, Asst. Professor, Department of Pharmacy Practice participated in webinar entitled "Why Python." Organized by Rius Technology on 17/07/2021.

Dr Swathi Swaroopa B, Asst. Professor, Department of Pharmacy Practice participated in webinar entitled 'The Bootcamp in Bioinformatics' organized by Future Medicine Academy, on 24/07/2021.

Dr Roopa B S, Asst. Professor, Department of Pharmacy Practice acted as a 'Reviewer' of manuscript for the Value in Health Regional Issues on 25/07/2021.

Dr M Deepalakshmi, Asst. Professor, Department of Pharmacy Practice participated in 'One day webinar on "Clinical Pharmacokinetics - Practical and Technical Approaches" organized by St. Peter's Institute of Pharmaceutical Sciences in association with Indian Pharmaceutical Association, Hanamkonda Local Branch and The Professional Society for Health Economics and Outcomes Research on 27/07/2021.

Mr. Vishwas H N, Lecturer, Department of Pharmacy Practice participated in webinar entitled 'Global perspective of Pharmacist' organized by Sree Siddaganga College of Pharmacy, Tumakuru in collaboration with Sree Siddaganga Hospital and Research Centre, Tumakuru, Group Pharmaceuticals Ltd, Bangalore and Karnataka Registered Pharmacist Association, Mysuru on 31/07/2021.

Dr. S Ponnusankar, Dr Deepalakshmi, Dr G K Sadagoban, Dr Swathi Swaroopa B, Dr Keerthana C, Mr Vishwas H N, Dr J Jeyaram Bharathi, Dr Mohsina Hyder, Faculty, Department of Pharmacy Practice participated in the webinar entitled 'Clinical operations and risk-based monitoring: industry perspectives' organized by Department of Pharmacy Practice, JSS College of Pharmacy, Mysuru on 31/07/2021.

Dr Aneena Suresh, Rajat Rana and Keerthana C have written a Book chapter entitled 'Study on Resveratrol Chemoprotective Effect and COX 2 Down Regulation in Tumor Suppression in DMBA Induced Breast Cancer in Female Sprague Dawley Rats' in the Book Technological Innovation in Pharmaceutical Research Vol-9, Book Publisher International. [978-93-91473-57-0 (Print) 978-93-91473-73-0 (eBook)].

Dr Swathi Swaroopa B, Asst. Professor, Department of Pharmacy Practice acted as a 'Reviewer' for Manuscript in the Journal of Applied Pharmaceutical Science on 31/07/2021.

Dr Aneena Suresh, Asst. Professor, Department of Pharmacy Practice acted as a 'Reviewer' for Manuscript for Journal of Pharmaceutical Research International during the month of July.

Mr Vishwas H N, Lecturer, Department of Pharmacy Practice acted as 'Poster presentation Evaluator' during the Virtual poster presentation on 'Global perspective of Pharmacist' organized by Sree Siddaganga College of Pharmacy, Tumkuru, Karnataka and Karnataka Registered Pharmacist Association (R) on 01/08/2021.

Dr Swathi Swaroopa B, Asst Professor, Department of Pharmacy Practice acted as 'Reviewer' of Manuscript in International Journal of Diabetes in Developing Countries-Springer Nature during the month of September.

Ganga Priyadarshini D, Arya Suresh, Shweta Mariam Philip, Vishwas H N presented a paper entitled 'Relationship between the serum Calcium and Vitamin D levels and premenstrual syndrome in University students of Ooty' during Virtual poster presentation on 'Global perspective of Pharmacist' organized by Sree Siddaganga College of Pharmacy, Tumakuru in collaboration with Sree Siddaganga Hospital and Research Centre, Tumakuru, Group Pharmaceuticals Ltd, Bangalore and Karnataka Registered Pharmacist Association, Mysuru on 01/08/2021.

## EVENT CORNER

Dr. Keerthana C, Dr Aneena Suresh, Faculty, Department of Pharmacy Practice participated in webinar entitled "Design of Experiments (DoE) Theoretical and Practical Aspects" organized by Department of Pharmaceutics, JSS College of Pharmacy, Mysuru on 02/08/2021.

Mr Vishwas H N, Lecturer, Department of Pharmacy Practice acted as 'Reviewer' for Research manuscript in Journal Clinical Epidemiology and Global Health-Elsevier, accepted on 03/08/2021.

Dr M Deepalakshmi, Dr. Keerthana C, Faculty, Department of Pharmacy Practice participated in webinar entitled 'Skills expected to Practice in Hospital setting from Pharm.D Graduates' organized by RVS College of Pharmaceutical Sciences Sullur, Coimbatore on 06/08/2021.

Mr Vishwas H N, Lecturer, Department of Pharmacy Practice successfully completed the 'Innovation Ambassador Training-Advanced Level' during the event Innovation Ambassador Training-Advanced Level training organized from Ministry of Education, AICTE, Govt. of India Ministry of Education's Innovation cell & AICTE, New Delhi & Govt. of India 16th February 2021 (Primary Phase Completed) 30th June to 30th July 2021 (Final Phase Completed) and Certificate received from IIC Portal on 18/08/2021.

Dr Aneena Suresh, Dr J Jeyaram Bharathi, Faculty, Department of Pharmacy Practice participated in the webinars entitled 'International Pharmacognosy Webinar Series' organized by Department of Pharmacognosy, JSS College of Pharmacy, Ooty between 11/08/2021-25/08/2021.

Dr S Ponnusankar, Dr Keerthana C, Faculty, Department of Pharmacy Practice participated in webinar entitled 'Psychiatry Elements in Diabetes' organized by JSS Dental College & Hospital, Mysuru on 18/08/2021.

Faculty members of Department of Pharmacy Practice participated in 7th International Diabetes & Endocrine Conference-(DECON-2021) organized by International society of Endocrinology, South Asian Federation of Endocrine societies, American College of Physicians-India Chapter, The ASEAN federation of Endocrine societies & Diabetes India. Between 20/08/2021 to 22/08/2021.

Dr J Jeyaram Bharathi, Resident, Department of Pharmacy Practice participated in webinar on 'Clinical Trial Registry- India' organized by ICMR, New Delhi on 24/08/2021.

Dr S Ponnusankar, Professor & Head, Department of Pharmacy Practice participated in the webinar entitled 'Health illiteracy and vaccine misinformation as determinants for equity: developing policies to establish access to quality information in an equitable way' organized by International Pharmaceutical Federation (FIP), The Netherlands on 26/08/2021.

Faculty, Department of Pharmacy Practice participated in webinar on 'Adopting and Adapting to Swayam' organized by Centre for Distance & Online Education, Centre for Internal Quality Assurance and The Academics Division of JSS Academy of Higher Education & Research, Mysuru on 27/08/2021.

Dr Aneena Suresh, Asst. Professor, Department of Pharmacy Practice participated in 9th Annual Conference of the Endocrine Society of Tamil Nadu and Puducherry 'TRENDO 2021' organized by Endocrine Society of Tamil Nadu and Puducherry between 27/08/2021 to 29/08/2021.

Mr Vishwas H N, Lecturer, Department of Pharmacy Practice participated in Prof. S K Marthandam Endowment: Oration by Dr B Suresh on 'Pharmacy Education: Transforming and evolving Profession' organized by Sri Ramachandra Faculty of Pharmacy, Sri Ramachandra Institute of Higher Education & Research, Porur, Chennai-600116 on 28/08/2021.

Mr Vishwas H N, Lecturer, Department of Pharmacy Practice participated in International dental webinar on 'Importance of communication skill on patient consultation' organized by IDA Nashik branch in collaboration with Group Pharmaceuticals Ltd, Bangalore on 29/08/2021.

Dr. Aneena Suresh, Asst. Professor, Department of Pharmacy Practice participated in webinar on "Pharmacy Career- Galaxy of Job and Business Opportunities" organized by Caritas College of Pharmacy, Kottayam, Kerala on 30/08/2021.

Dr J Jeyaram Bharathi, Resident, Department of Pharmacy Practice published a Book chapter entitled 'TrkA Signalling and Parkinson's Dementia' in InTech Open Book Series Intech Open Limited, United Kingdom (ISBN No:10.5772/intechopen.99106)

Dr Swathi Swaroopa B, Asst Professor, Department of Pharmacy Practice acted as 'Reviewer' of Manuscript in Journal of Applied Pharmaceutical Science on 31/08/2021.

Dr Aneena Suresh, Asst Professor, Department of Pharmacy Practice acted as 'Reviewer' of Manuscript in Journal of Pharmaceutical Research International during the month of August 2021.

Dr. Roopa B S, Asst. Professor, Department of Pharmacy Practice acted as a Resource person and delivered a talk on 'How to integrate pharmacovigilance in Public Health Programs' during the National Pharmacovigilance Week Program, NIPER-Hajipur organized by National Institute of Pharmaceutical Education and Research, Hajipur on 17/09/2021.

Dr M Deepalakshmi, Asst Professor, Department of Pharmacy Practice participated in webinar entitled 'National Pharmacovigilance Week - Lecture Series' organized by Alwar Pharmacy College, Alwar, Rajasthan on 20/09/2021.

Dr J Jeyaram Bharathi, Resident, Department of Pharmacy Practice acted as a Resource person and delivered a talk on 'ADR Report Analysis Pharmacist's Role' during the National Pharmacovigilance Week - Lecture Series organized by Alwar Pharmacy College, Alwar, Rajasthan on 20/09/2021.

Dr Aneena Suresh, Dr Swathi Swaroopa B, Mr Vishwas H N, Faculty, Department of Pharmacy Practice participated in National Online Workshop on Pharmacovigilance: Demonstration of Various Drug Safety Databases National organized by The Department of Pharmacy Practice National Institute of Pharmaceutical Education and Research Guwahati (AMC-PvPI) on 20/09/2021 and 21/09/2021.

Dr. Roopa B S, Asst. Professor, Department of Pharmacy Practice acted as a Resource person and delivered a talk on 'Sensitization on Pharmacovigilance' during the event 'National Pharmacovigilance Week Program' organized by Department of Pharmacology, Government Medical College and Hospital, Udhagamandalam in collaboration with Indian Pharmacopoeia Commission (NCC-PVPI) on 21/09/2021.

Dr J Jeyaram Bharathi, Resident, Department of Pharmacy Practice participated in Second International Pharmacognosy Webinar 2021 organized by Department of Pharmacognosy and Phytopharmacy, TIFAC Core in Herbal Drugs, JSS College of Pharmacy Ooty between 21/09/2021 to 24/09/2021.

Mr Vishwas H N, Lecturer, Department of Pharmacy Practice acted as Resource person and delivered a talk on 'Importance of statistical variables in PG Research' during the Guest Lecture at Department of Pharmacology & Pharmacy Practice State Vinayaka Mission's College of Pharmacy, Vinayaka Mission's Research Foundation, Salem on 23/09/2021.

Dr. Keerthana C, Resident, Department of Pharmacy Practice participated in webinar 'JSS OMOSOP Symposium' organized by Department of Oral Medicine & Radiology, Oral & Maxillofacial Surgery, JSS Dental College & Hospital, JSS AHER, Mysuru on 23/09/2021.

Dr S Ponnusankar, Dr K P Arun, Dr M Deepalakshmi, Dr. Sadagoban G K, Dr Swathi Swaroopa B, Dr Keerthana C, Dr J Jeyaram Bharathi, Faculty, Department of Pharmacy Practice participated in webinar entitled 'Clinical Pharmacy/Pharmacist: The Future of Patient Care' organized by School of Pharmacy, JSS Academy of Higher Education and Research, Mauritius on 24/09/2021.

# PUBLICATIONS FROM THE DEPARTMENT OF PHARMACY PRACTICE

## July - September 2021

Jyothikrishna, Aswathy, Keerthana C, Arun KP. A review on pharmacokinetic and pharmacodynamic properties of colistin. Journal of Xi'an Shiyu University (Natural Science Edition). 2021;17(07):260-270.

Sadagoban GK, Baiju A, Sanjeev S, Ayilya M, Borra SS. A cumulative review on the utilisation of drug information services provided in India. Journal of Pharmaceutical Health Services Research. 2021;12(3):452-9.

Vahini B, Narenthiran CK, Keerthana C. Rheumatic Heart Disease in Indian Paediatrics: A Review Journal of Pharmaceutical Research International. 2021.33(34A): 27-33.

Prithika SI, Biju B S, Prathipaa RP, Ponnusankar S, Vishwas HN. Prevalence of smartphone addiction and Its impact on sleep quality and associated neck disabilities among University students of Ooty, India. Journal of Xi'an Shiyu University (Natural Science Edition). 2021;17(07):215-223.

Mahendrakumar R, Nyamagoud SB, Chetan B, Deshpande K, Vishwas HN. Assessment of knowledge, attitude and Practice towards COVID-19 among Pharmacy students in South India during lockdown: A cross sectional study. Journal of Xi'an Shiyu University (Natural Science Edition). 2021;17(07):271-277.

Ponnusankar S, Vishwas HN, Bhavya C, Vahini B, Balasubramaniam V. Assessment of prevalence of polypharmacy (irrational) among the elderly rural population of South India. Journal of Xi'an Shiyu University (Natural Sciences Edition). 2021. 17(8): 18-23.

Singh B, Roopa BS. Elevated maternal serum iron concentrations and decreased platelet count in women with pregnancy induced hypertension: A systematic review of observational studies Journal of Xi'an Shiyu University, (Natural Science Edition). 2021; 17(8):116-134.

Aneena S, Dharshini MS, Pavithran T, Harish, Dharnish R, Arun R. Strategical Clinical Trials towards Personalized Medicine: A Detailed Review. Journal of Xi'an Shiyu University (Natural Science Edition). 2021;17(09)47-54.

Nyamagoud SB, Shaji A, Abhirami MT, Varghese A, Swamy AHMV, Mahendrakumar R, Vishwas HN. Dabigatran induced Ecchymatous patches: a rare case report. Journal of Xi'an Shiyu University, (Natural Science Edition). 2021;17(08): 68-70.

Hyder KM, Mohan J, Varma V, Ponnusankar S, Raja D. Effects of Muscle-Specific Exercises Compared to Existing Interventions on Insulin Resistance among Prediabetes Population of South India. Journal of Natural Science, Biology and Medicine. 2021;12(2):230-236.

Som S, Antony J, Dhanabal SP, Ponnusankar S. Vernonia anthelmintica (L.) willd extract alleviates cognitive deficits and neurodegeneration induced by infusion of amyloid beta (1-42) in rats. Pharmacognosy Magazine. 2021 Apr 1;17(6):172.

Deepalakshmi M, Jerlin AR, Anuvikashni R, Dinesh R, Bharathi JJ, Arun KP. Trigger tools for monitoring and reporting of adverse drug reactions in tuberculosis - A scientific tool for efficient reporting. Journal of Xi'an Shiyu University (Natural Science Edition). 2021;17(9): 405-412.

Bharathi JJ, Shalini R, Arun KP, Deepalakshmi M. Auramine-o and Malachite Green Poisoning: Study of Clinical profile. Journal of Xi'an Shiyu University, (Natural Science Edition). 2021;17(9):15-18.

Basutkar RS, Sagadevan S, Sri Hari O, Sirajudeen MJ, Ramalingam G, Gobinath P, Rajesh N, Sivasankaran P. A Study on the Assessment of Impact of COVID-19 Pandemic on Depression: An Observational Study among the Pregnant Women. The Journal of Obstetrics and Gynecology of India. 2021;71 (S1): S28-S35.

## A GLIMPSE OF NATIONAL PHARMACOVIGILANCE WEEK CELEBRATION In Association with Government Medical College and Hospital, Ooty



## ALUMNI INTERACTION SERIES - 2021

### *Bridging the gap - Connecting to the World*

**Speaker:**

Dr Govind Ajmera  
Head - Dept. of Pharmacy &  
Clinical Pharmacy  
CHL Group of Hospital, Indore



**Title of the presentation:**

*Emerging role of Clinical Pharmacists in  
modern healthcare practice:  
"Expectation Vs Reality"*

Date of Presentation: 24-07-2021

Alumni Interaction Series (AIS) is a new initiative of Dept. of Pharmacy Practice and Pharmacy Education Unit of JSS College of Pharmacy to connect the Pharm D students with the alumnus of our department with the quote "Bridging the Gap- Connecting to the World".

This interaction series will provide an opportunity to the Pharm D and M Pharm (Pharmacy Practice) students to establish their professional connection with the alumnus of the institution and also understand the various topics dealt by the invitee. Further, this interaction will help the students to better appreciate the various requirement for the academic learning including the pharmacotherapy knowledge, clinical case understanding to serve as clinical pharmacists in diverse patient care settings. As patient care expert / specialist; our students have the responsibility to learn more from the working professionals which will help them to function as a member of a multidisciplinary health care team member and provide their services to the needy population.

Dr Govind Ajmera, started his presentation with the definition of the term "Who is Pharmacist?" and "What does a pharmacist DO?"

Pharmacists distribute prescription drugs to individuals. They also provide advice to patients and other health professionals on how to use or take medication, the correct dose of a drug, and potential side effects. Plus, they can make sure that a drug won't interact badly with other medications you take or health conditions you have. They can also provide information about general health topics like diet and exercise, as well as advice on products like home healthcare supplies and medical equipment.

**Pharmaceutical Care:** is the direct or indirect responsible provision of drug therapy for the purpose of achieving the elimination or reduction of a patient's symptoms; arresting or slowing of a disease process; or preventing a disease. The principle elements of pharmaceutical care are that it is medication related; it is care that is directly provided to the patient; it is provided to produce definite outcomes; these outcomes are intended to improve the patient's quality of life; and the provider accepts personal responsibility for the outcomes.

**Medical Expert:** As a medical expert, a pharmacist has long been considered a counselor who can provide credible advice and treatment advice. Today, they are making new contributions to healthcare to guide patients in rational use of medicines and support clinical decision-making in their areas of expertise. They also can provide special skill and service, such as pharmacokinetic dosing and monitoring. Clinical pharmacists are often active members of the medical team and are involved with the physician in the rounds to facilitate the discussion of clinical treatment decisions.

They should apply their knowledge and skills to this new role, combining traditional pharmacy sciences with clinical patient care, clinical skills, and management and communication skills, actively collaborating with medical teams and solving medical-related problems. To become a highly effective healthcare team member, pharmacists need to master high skills and attitudes to enable them to take on many different functions. While change may pose a potential threat, it can also bring great opportunities. Pharmaceutical professions have a responsibility to identify new opportunities for pharmacy practice in the context of changing health sectors and to assess and test these opportunities to demonstrate their ability.

After the presentation, question and answer session was organized. Further, he added his experience of establishing the pharmacy and clinical pharmacy department at CHL group of hospitals and managing the in-patient/outpatient pharmacy services during the COVID pandemic situation, he shared.

## ALUMNI INTERACTION SERIES - 2021

### *Bridging the gap - Connecting to the World*

Dr. Rajan rendered an eye-opening talk on "Pharmacometrics - How much we know and where it can lead to?". He elucidated some of his striking research in the area, to emphasize how pharmacometrics can be a great support to optimise patient outcomes in pharmaceutical care. The specific research work explained by him included the following.

1. A Systematic Evaluation of Effect of Adherence Patterns on the Sample Size and Power of a Clinical Study: This study utilised the Medication Event Monitoring System (MEMS) to track the medication adherence of the patients. The adherence trends were then utilised to understand the impact of adherence in the PK-PD of the drug by linking the Markov Chain model of adherence to a population pharmacokinetic/pharmacodynamic (PK/PD) simulations of the anti-HIV drug. This model was leveraged to explain the impact on the sample size and power of the study. The study was conclusive that the varying adherence patterns significantly impact the sample size and power of the study. Hence, it was demonstrated to the audience that pharmacometrics can be utilised to effectively design a clinical trial by incorporating all the necessary aspects that influence the trial.

2. Tenofovir Plasma Concentration from Preexposure Prophylaxis at the Time of Potential HIV Exposure: This study used the adherence data collected using the Medication Event Monitoring System (MEMS), and time of sexual activity was collected using the mobile phone short message service (SMS) along with the two plasma samples collected at a single study visit and integrated them by a pharmacokinetic (PopPK) model to simulate tenofovir plasma concentrations from at the time of sexual activity. Pre exposure prophylaxis coverage was estimated as the number of reported sexual events during which simulated concentrations were above a threshold concentration associated with a high degree of protection from HIV infection. This pragmatic delivery model for antiretroviral-based HIV prevention clearly justified the application of pharmacometrics in direct patient care to ensure optimal therapeutic outcomes to the virtual audience.

At the end of the interaction the audience were intrigued by the outstanding role that the novel field of pharmacometrics can play in healthcare and appreciated the need to expand the knowledge in the country. With a short question and answer session, the session was completed. Dr Arun KP coordinated the session by introducing the speaker to the audience and also proposed the vote of thanks.

**Speaker:**

Dr M Surulivel Rajan  
Associate Professor  
Department of Pharmacy Practice  
Manipal College of Pharmaceutical  
Sciences, MAHE, Manipal

**Title of the presentation:**

*"Pharmacometrics - How much we know  
and where it can lead to?"*

Date of Presentation: 28-08-2021



## ALUMNI INTERACTION SERIES - 2021

*Bridging the gap - Connecting to the World*

### Speaker:

Mr T Sathish  
Vice President - Regulatory &  
Corporate Support  
Tablets (India) Limited  
Chennai



### Title of the presentation:

Pharmaceutical Regulations - Domestic &  
Global requirements

Date of Presentation: 27-09-2021

Mr T Sathish, had completed his M Pharm (Pharmacy Practice) at Dept. of Pharmacy Practice, JSS College of Pharmacy, Ooty in the year 1999 and had experience in Marketing and regulatory for the last 25 years. He started his presentation with the mention that, the quantum of experience he gained at public hospital at Ooty gave the strength and courage to take up the challenging marketing job in early days of his career.

His presentation was focused on three main domain such as drug regulation, food regulation and device / vaccine regulation in domestic and global requirement. As the pharmaceutical industries throughout the world are moving ahead towards becoming more and more competitive, regulatory agencies are being established in various countries across the globe. Regulatory agencies and organizations play a vital role to meet the requirements of legal procedures related to drug development process in a country.

In the present scenario, pharmaceuticals are considered as the most highly regulated industries worldwide. The regulatory body ensures compliances in various legal and regulatory aspects of a drug. Every country has its own regulatory authority, which is responsible to enforce the rules and regulations and issue the guidelines to regulate drug development process, licensing, registration, manufacturing, marketing and labelling of pharmaceutical products. USFDA (USA), MHRA (UK), TGA (Australia), CDSCO (India), HEALTH CANADA (CANADA), MCC (South Africa), ANVISA (Brazil), EMEA (European Union), SFDA (China), NAFDAC (Nigeria), MEDSAFE (New Zealand), MHLW (Japan), MCAZ (Zimbabwe), SWISSMEDIC (Switzerland), KFDA (Korea), MoH (Sri Lanka) are the few regulatory agencies and organizations established in respective countries.

World Health Organization (WHO), Pan American Health Organization (PAHO), World Trade Organization (WTO), International Conference on Harmonization (ICH), World Intellectual Property Organization (WIPO) are some of the international regulatory agencies and organizations which also play essential role in all aspects of pharmaceutical regulations related to drug product registration, manufacturing, distribution, price control, marketing, research and development, and intellectual property protection.

The major challenges of these regulatory agencies and organizations around the world are to ensure the safety, quality and efficacy of medicines and medical devices, harmonization of legal procedures related to drug development, monitoring and ensuring compliance with statutory obligations. They also play a vital role to ensure and increase regulatory implementation in non-regulated parts of the world for safety of people residing there. In his presentation, he described the brief review of various regulatory bodies of major developed and developing countries and the scope and challenges of such regulatory organizations in drug development and delivery of safe and effective healthcare products to individuals around the world.

### Challenges:

The major challenges of these regulatory bodies are:

- To promote public health and protect the public from harmful and dubious drugs,
- To establish proper legalization covering all products with a medicinal claim and all relevant pharmaceutical activities, whether carried out by the public or the private sector.
- To increase worldwide regulatory growth to ensure safety of people.

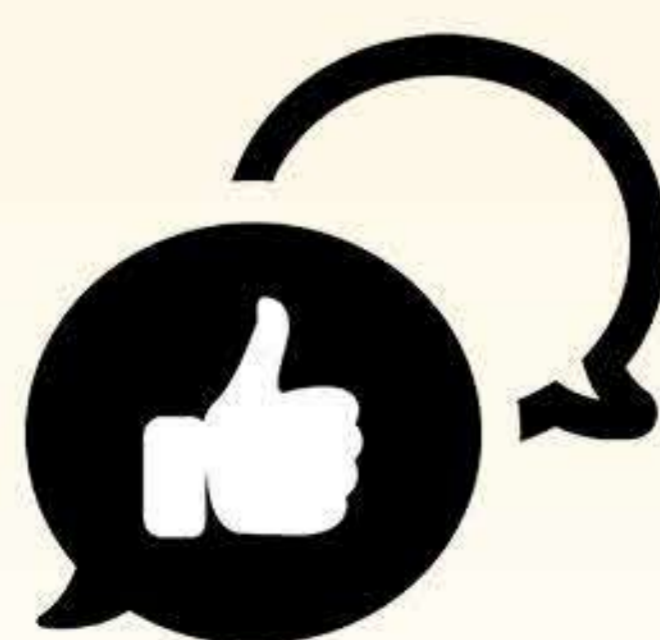
### Conclusion:

Regulatory agencies and organizations around the world need to ensure the safety, quality and efficacy of medicines and medical devices, harmonization of legal procedures related to drug development, monitoring and ensuring compliance with statutory obligations. However the need of the hour is:

- More centralized procedures in drug regulation
- Harmonization of regulatory norms
- Strengthening the regulatory authorities

After the presentation, question and answer session was organized. Further, he added his experience of establishing the corporate support and regulatory at his company, he shared.

**For clarifications/ feedback, write to:**



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