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CLINICAL PHARMACY NEWSLETTER

A Newsletter of Drug and Prescribing Information

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(A Unit of Department of Pharmacy Practice, JSS College of Pharmacy, Ooty)

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INSIDE THIS ISSUE

Severe hypocalcaemia mimicking acute coronary syndrome

Background

Hypocalcaemia is frequently observed in the general population, usually in cases of malnutrition, sepsis, kidney disease or primary endocrine disorders such as hypoparathyroidism or vitamin D deficiency. More rarely, it can occur due to other electrolyte deficiencies, such as hypomagnesaemia or hypermagnesaemia. Calcium plays a vital role in the cardiac action potential and in the contraction and relaxation of myocardium and vascular smooth muscle, including the coronary arteries. Hypocalcaemia has been purported to play a role in acute coronary syndromes where no obstructive lesions are found on angiography (2–3%).There have also been case reports linking hypocalcaemia to numerous other cardiac complications, including ventricular arrhythmias, sudden cardiac death, dilated cardiomyopathy and coronary spasms.

Here, we describe a case of a pregnant woman who developed acute chest pain and QTc prolongation from severe hypocalcaemia, which was likely induced by hypermagnesaemia from an infusion.

Case presentation

A pregnant Hispanic woman in her 20 s with a medical history of idiopathic thrombocytopenic purpura and prior preterm delivery at 36 weeks presented with premature contractions at 33 weeks and 4 days. She reported no cardiovascular risk factors (specifically no hypertension, hyperlipidaemia, diabetes or peripheral vascular disease), family history, allergies, medication use or substance use. She was started on a magnesium sulfate infusion for fetal neuroprotection (6 g bolus followed by a continuous magnesium infusion at a rate of 2 g/hour). Antenatal steroids were also administered for fetal lung maturity. Approximately 16 hours after the start of the magnesium infusion, the patient began to complain of episodes of intermittent, sharp, non-radiating chest pain across her precordium that lasted a few minutes, which were distinct from her uterine contractions. Her vitals at the time were a temperature of 36.6°C (97.9°F), a blood pressure of 95/54, a heart rate of 94 beats per minute, a respiratory rate of 18 breaths per minute and an oxygen saturation of 97%. Her cardiopulmonary exam was normal.

Treatment

Intravenous calcium 2 g was administered with improvement of the corrected serum calcium to 8.7 mg/dL (corrected for albumin of 2.9 mg/dL). An ionised calcium level checked after repletion was 1.06. Metoprolol tartrate 12.5 mg three times per day was also added to decrease cardiac work.

Outcome and follow-up

The chest pain ultimately resolved after the intravenous calcium administration, with a corresponding normalisation of the QTc interval on ECG to 370–380 ms. After the patient delivered her baby a few days later, her chest pain briefly recurred despite having a normal calcium level of 10.6 mg/dL (corrected for albumin of 3.2 mg/dL). A CT angiogram of the coronary arteries was obtained, which ruled out vessel stenosis or dissection. This episode of chest pain was ultimately attributed to physiological stress from labour. On follow-up several months later, the patient reported that she had no recurrences of chest pain or cardiac complications after her delivery.

Discussion

In this case, a pregnant woman in her 20 s with no history of cardiac disease or significant electrolyte derangements developed multiple bouts of chest pain with ECG changes suggestive of cardiac ischaemia. However, her troponins were negative, echocardiography did not show evidence of a myocardial infarction or heart failure and a coronary CT angiogram showed minimal calcifications and no dissection. Her symptoms and QTc prolongation resolved with correction of hypocalcaemia, which was discovered on a complete metabolic panel.

Overall, this case is suggestive of coronary spasms caused by severe hypocalcaemia. However, there were many other aetiologies of chest pain that were originally included in the differential diagnosis. The patient's anterolateral T wave inversions in leads V1–V4 initially led the team to be concerned about a spontaneous coronary artery dissection (specifically of the left anterior descending artery) or an aortic dissection. Women are predisposed to arterial dissections during pregnancy because of weakening of the tunica media and increased arterial shear stress.

T wave inversions can also be caused by structural changes seen in cardiomyopathies, such as peripartum, Takotsubo ('stress') or hypertrophic cardiomyopathy. Coronary artery disease was also considered, although the patient was at low risk due to her age and lack of cardiovascular comorbidities. All of the above conditions were ruled out by the normal ECG and coronary CT as well as the symptom improvement observed after calcium repletion. Other non-cardiac aetiologies of chest pain were considered as well in this relatively young patient, such as gastro-oesophageal reflux, abdominal muscle cramps from labour with pain radiating towards the chest and pneumonia. These were ruled out clinically.

The exact mechanism of coronary spasms in hypocalcaemia has been contested but appears to be multifactorial. Endothelial dysfunction, inflammation and oxidative stress, neuromuscular hyperactivity and delayed closure of L-type calcium channels all likely play a role. These mechanisms combine to result in higher concentrations of intracellular calcium, greater phosphorylation of myosin light chains and ultimately increased smooth muscle contraction. Prolonged spasm of the coronary arteries can lead to decreased myocardial oxygen supply and injury, which may cause ST elevations on ECG and wall motion abnormalities on echocardiography. This patient's lack of myocardial injury may have been due to the relatively short duration of her chest pain episodes and lack of underlying atherosclerosis.

Within cardiac myocytes, calcium entry during phase 2 of the action potential is inhibited by hypocalcaemia, which prevents the closing of L-type calcium channels, prolongs the plateau phase of the cardiac action potential and delays repolarisation. Based on this mechanism, the ECG hallmark of hypocalcaemia is prolongation of the QTc interval, which is the only ECG change that can be reliably followed. T wave changes are more variable; >50% of patients have normal T waves, while others display negative to deeply inverted T waves. Physiologically, hypocalcaemia should not cause T wave changes because it does not affect phase 3 of the action potential, so any T wave abnormalities may represent myocardial ischaemia or injury, as discussed above. When interpreting ECGs, it is important to compare concerning findings against a prior baseline to establish whether they are new, as this would change management. For instance, there are some who may have a baseline prolonged QTc interval on ECG due to medications or a genetic syndrome, while others may have ST segment elevations or inverted T waves from repolarisation abnormalities. Depending on their symptoms, these individuals may not need further evaluation for cardiac or electrolyte abnormalities if their current ECG is identical to their baseline ECG.

However, for those who have changes compared with baseline or do not have a baseline ECG, such as our patient, further workup is warranted. It is reasonable to start with troponin measurements and echocardiography to evaluate for ischaemia and cardiac structural changes. Coronary angiography is usually not required if troponins and echocardiography are normal or another aetiology of the chest pain is identified (eg, hypocalcaemia), though it may help to confirm the absence of critical vessel stenosis in individuals with concerning ECG changes and underlying risk factors for coronary artery disease (CAD). In a young patient with no predisposing CAD risk factors or troponin elevation, a CT of the coronary arteries can be performed to rule out atherosclerosis if there are recurrent chest pain episodes despite calcium repletion (deferred in this patient to post partum). However, if a coronary artery dissection is high on the differential for a pregnant woman, an emergent coronary angiogram with appropriate fetal shielding would be recommended as first-line therapy.

The mainstay of hypocalcaemia-induced coronary spasm treatment is calcium repletion. Vasospasms should resolve with normalisation of serum total or ionised calcium levels. In general, coronary vasospasms can also be treated with lifestyle changes (eg, avoiding smoking cigarettes, consuming alcohol, other drug use) that can reduce endothelial injury, inflammation and oxidative stress. Long-term pharmacological management can be pursued for recurrent or severe attacks. Dihydropyridine calcium channel blockers are highly effective at preventing vasospastic angina by blocking L-type calcium channels and in turn promoting coronary relaxation. Statins are also an important adjunct therapy that can improve the prognosis of patients and work by inhibiting the RhoK pathway, which modulates the sensitivity of the myosin-actin complex to calcium. Thyrotoxicosis is also a possible cause of vasospastic angina and should be treated promptly to prevent further coronary spasms.

Severe hypocalcaemia in adults is typically caused by primary endocrine disorders such as hypoparathyroidism or severe vitamin D deficiency. However, calcium levels can also be profoundly affected by other electrolyte derangements. In this case, the patient experienced hypermagnesaemia from a magnesium sulfate infusion used in preterm labour, which is known to be associated with hypocalcaemia. In a similar cohort of pregnant patients receiving magnesium, calcium levels dropped precipitously and then later rose, with an average nadir of 7.6 mg/dL. The purported mechanism of hypocalcaemia is a drop in PTH due to inhibition of the calcium sensing receptor of the parathyroid gland, though PTH will later rise to promote physiological compensation, as seen in our patient. Additionally, hypermagnesaemia during magnesium infusions has been shown to increase urinary calcium excretion threefold. As per the International Federation of Gynaecology and Obstetrics guidelines for the management of preterm labour, the optimal regimen of magnesium sulfate for fetal neuroprotection is an intravenous loading dose of 4 g followed by a 1 g/hour maintenance dose, which should be continued until birth or stopped after 24 hours. Our patient received a much higher dose of magnesium, a 6 g loading dose and 2 g/hour maintenance dose. Vitals and reflexes should be checked every 4 hours, and serum magnesium levels should also be checked frequently to monitor for toxicity. As per a recent randomised controlled trial of patients receiving a magnesium infusion for pre-eclampsia, magnesium levels were checked at baseline, at 30 min, every 2 hours for the first 6 hours and every 6 hours thereafter. Using a similar protocol for prevention of magnesium toxicity in preterm labour may help to avoid complications such as severe hypocalcaemia.

Conclusion:

In conclusion, this case demonstrates that hypocalcaemia is a possible cause of vasospastic angina as well as ECG changes and must be thoroughly investigated in adjunct with other workup for acute coronary syndrome. Although magnesium infusions are considered to be relatively safe for pregnant women, they have the potential to induce severe hypocalcaemia, necessitating close monitoring.

Reference:

Sahitya Allam, Ethan Kotloff, Anusha Bhat and Libin Wang. Severe hypocalcaemia mimicking acute coronary syndrome. BMJ Case Reports CP. 2023;16:e255652.

"Hypocalcaemia is a common electrolyte deficiency that can be found in up to 28% of hospitalised patients. It may affect cardiac and smooth muscle tone, leading to ECG abnormalities and, in rare cases, coronary spasms and heart failure"

DRUG PROFILE
Omvoh (Mirikizumab-mrkz)

Class: monoclonal antibodies

Indications and Uses:
Omvoh is indicated for the treatment of moderately to severely active ulcerative colitis in adults.

Recommended Dosage:
Induction Dosage
The recommended induction dosage of Omvoh is 300 mg administered by intravenous infusion over at least 30 minutes at Week 0, Week 4, and Week 8

Maintenance Dosage
The recommended maintenance dosage of Omvoh is 200 mg administered by subcutaneous injection (given as two consecutive injections of 100 mg each) at Week 12, and every 4 weeks thereafter.

Dosage Forms and Strengths
Omvoh is a clear to opalescent, colorless to slightly yellow to slightly brown solution available as:
• Intravenous Infusion:
Injection: 300 mg/15 mL (20 mg/mL) solution in a single-dose vial
• Subcutaneous Use:
Injection: 100 mg/mL solution in a single-dose prefilled pen

Contraindications
Omvoh is contraindicated in patients with a history of serious hypersensitivity reaction to Mirikizumab-mrkz or any of the excipients.

Side effecst
The most common side effects of Omvoh include:
• Upper respiratory infections
• Joint pain
• Rash
• Injection site reaction
• Headache
• Herpes viral infections

Warnings and Precautions
• *Hypersensitivity Reactions*- Serious hypersensitivity reactions, including anaphylaxis during intravenous infusion, have been reported with Omvoh administration. Infusion -related hypersensitivity reactions, including mucocutaneous erythema and pruritis, were reported during induction.

• *Infections*-In patients with a chronic infection or a history of recurrent infection, consider the risks and benefits prior to prescribing Omvoh.
• *Tuberculosis*-Do not administer Omvoh to patients with active TB infection. Initiate treatment of latent TB prior to administering Omvoh. Consider anti-TB therapy prior to initiation of Omvoh in patients with a past history of latent or active TB in whom an adequate course of treatment cannot be confirmed. Monitor patients for signs and symptoms of active TB during and after Omvoh treatment.

• *Hepatotoxicity*-Evaluate liver enzymes and bilirubin at baseline and for at least 24 weeks of treatment. Monitor thereafter according to routine patient management. Consider other treatment options in patients with evidence of liver cirrhosis.

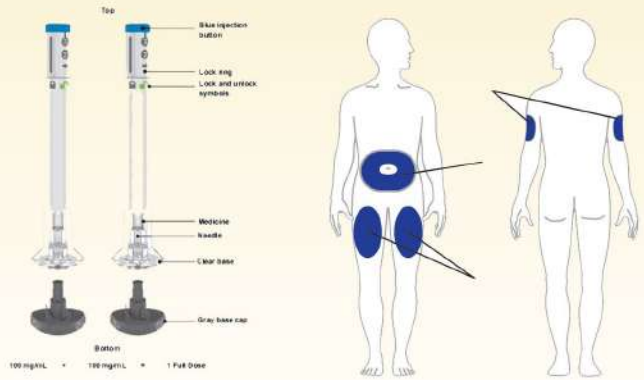
• *Immunizations*-Avoid use of live vaccines in patients treated with Omvoh

Use in Specific Populations
Pregnancy- Available data from case reports of Mirikizumab-mrkz use in pregnant women are insufficient to evaluate for a drug associated risk of major birth defects, miscarriage, or other adverse maternal or fetal outcomes. Although there are no data on Mirikizumab-mrkz, monoclonal antibodies can be actively transported across the placenta, and mirikizumab-mrkz may cause immunosuppression in the in utero-exposed infant.
Lactation- There are no data on the presence of mirikizumab -mrkz in human milk, the effects on the breastfed infant, or the effects on milk production.
Pediatric Use-The safety and effectiveness of Omvoh have not been established in pediatric patients.
Geriatric Use-No clinically meaningful differences in the pharmacokinetics of Mirikizumab-mrkz were observed in subjects 65 years of age and older compared to younger adult subjects.

Mechanism of Action
Mirikizumab-mrkz is a humanized IgG4 monoclonal antibody that selectively binds to the p19 subunit of human IL-23 cytokine and inhibits its interaction with the IL-23 receptor.
IL-23 is involved in mucosal inflammation and affects the differentiation, expansion, and survival of T cell subsets, and innate immune cell subsets, which represent sources of pro-inflammatory cytokines. Research in animal models has shown that pharmacologic inhibition of IL-23p19 can ameliorate intestinal inflammation. Mirikizumab-mrkz inhibits the release of pro-inflammatory cytokines and chemokines.

Ingredients
Active ingredient: Mirikizumab-mrkz.
Inactive ingredients: anhydrous citric acid, polysorbate 80, sodium chloride, sodium citrate, and Water for Injection.
Omvoh prefilled pens are not made with dry natural rubber latex.

Patient Coounselling Information
• *Hypersensitivity Reactions*- Advise patients to discontinue Omvoh and seek immediate medical attention if they experience any symptoms of serious hypersensitivity reactions
• *Infections*- Advise patients that Omvoh may lower the ability of their immune system to fight infections and to contact their healthcare provider immediately if they develop any symptoms of infection.
• *Tuberculosis*- Advise patients to contact their healthcare provider if they experience symptoms suggestive of TB (e.g., unexplained fever, cough, or difficulty breathing)
• *Hepatotoxicity*- Inform patients that Omvoh may cause liver injury. Advise patients to seek immediate medical attention if they experience symptoms suggestive of liver dysfunction (e.g., unexplained rash, nausea, vomiting, abdominal pain, fatigue, anorexia, or jaundice and/or dark urine)
• *Administration*- Instruct patients in preparation and administration of Omvoh, including choosing anatomical sites for subcutaneous administration, and proper subcutaneous injection technique. Instruct patients in the technique of pen disposal.
Instruct patients or caregivers to administer two 100 mg prefilled pens to achieve the full 200 mg dose of Omvoh.



Reference
https://www.accessdata.fda.gov/drugsatfda_docs/label/2023/761279s000lbl.pdf

Publications from the Department of Pharmacy Practice (October-December))

- Mohamed Akram Ali S, Kalaivani R, Helina N, Rajamohamed H, Sabarish Sachithanandan J, Porkodi M. Role of Clinical Pharmacist in Handling Vancomycin for the Prevention and Treatment of Red Man Syndrome. International Journal of Pharmacy and Pharmaceutical Research. 2023;28(3):391-399.
- Pramod Kumar Adusumilli, Bala Sowmya Samanthula, Dharini Boopathi, Deepalakshmi Mani. Case Report of Lennoxgastaut Syndrome and An Overview of its Non-Pharmacological Treatments. Research Journal of Pharmacy and Technology. 2023; 16(10):493-497.
- Rinta Elizabeth Reji , Surag B. Nair , Kannappan Subbaiah , David Sharon Cynthia, Sabitha Panchagiri, Sivasankaran Ponnusankar, Hunsur Nagendra Vishwas. An epidemiological study on the prevalence and predictors for geriatric sarcopenia from a public hospital of Ooty, India. Journal of Applied Pharmaceutical Science. 2023;13(10):210-216.
- Tamil mozhi R, Abinaya N, Rajamohamed H, Mohamed Akram Ali S, Shahul Hameed KM, Nepolean R. A Systemic Review of Organophosphorus Poisoning by Analyzing the Case Report. International Journal of Pharmaceutical and Bio-Medical Science. 2023;3(12):724-727.
- Rajamohamed H,Vikashinisubramni,Sabarish J ,Mohamed Akram Ali S,Baharul Islam. Complex clinical presentation and diagnostic challenges in metachromatic leukodystrophy-A narrative review. Journal of Advances in Pharmacy Practices. 2024;6(1):1-11.
- S.Vikashini, K.Raja, R.Malathy, S.Anadaraj. Evaluation of groundwater chemistry and multivariate statisticsl studies in parts of Tirupur district,India. Journal of environmental nanotechnology. 2023;12(4):60-67.


Case Report of Lennoxgastaut Syndrome and An Overview of its Non-Pharmacological Treatments


An epidemiological study on the prevalence and predictors for geriatric sarcopenia from a public hospital of Ooty, India


IJPPR

Role of Clinical Pharmacist in Handling Vancomycin for the Prevention and Treatment of Red Man Syndrome

EVENT CORNER

A REPORT ON ALUMNI INTERACTION SERIES 2023 – LECTURE 01 (BRIDGING THE GAP - CONNECTING TO THE WORLD)

Name of the presenter: Dr Dharini B
Senior Pharmacovigilance Associate
Pharmacovigilance Program of India (PvPI)
Indian Pharmacopoeia Commission (IPC)
New Delhi

Title of the presentation: "Pharmacists at the forefront of evolving drug safety realm"

Date of the Presentation: 19.10.2023

Program Organized by: Dept. of Pharmacy Practice & Pharmacy Education Unit, JSS College of Pharmacy, ooty.

Dr Dharini B, a Pharm D graduate from JSS College of Pharmacy, Ooty completed her PharmD program in the year 2015 and has experience of more than eight years as a Pharmacovigilance expert in PvPI. She is responsible to coordinate with adverse drug reaction monitoring centers and pharmacovigilance associates posted in Tamil Nadu. She was awarded top performing Pharmacovigilance associate for the year 2018-19 by National Coordinating Center (NCC), PvPI, New Delhi. She was sponsored by PvPI for the 4th Asia Pacific Pharmacovigilance training course by WHO – UPPSALA monitoring center.

Dr Dharini started her presentation with a note on the development of the evolution of safety system with support of WHO and safety monitoring programs in different countries. She also introduced the various safety monitoring program such as Pharmacovigilance, Materiovigilance, AEFI, Hem-vigilance, Cosmetovigilance, Eco pharmacovigilance and it aims, objectives and the expected outcomes of the program with detailed examples to the audience. Further, she also discussed about the role of National Coordinating Center (NCC)-Pharmacovigilance Program of India (PvPI), Indian Pharmacopoeia Commission (IPC), New Delhi to the participants Dharini then discussed about the clinical pharmacists intervention model in identifying the drug interactions, adverse drug reactions, medication error etc. she also emphasized about the evidence based patient care plan in ADR reporting, reporting medication error and utilizing systematic approaches in using trigger tools and its assessment. She also mentioned the key steps for ensuring medication safety in patient care services with examples. She finally added in her presentation with the role of pharmacists in Pharmacovigilance. Dr Dharini then concluded her presentation followed by taking up queries from the audience and staff, Department of Pharmacy Practice. Over 92 participants fruitfully benefited through this webinar.

A Brief Report on Invited Impact Pharmacy Lecture Series 2023 – Lecture 11
(New connections and new learning)

Name of the presenter: Dr Juny Sebastian, MPharm, PhD
Assistant Professor
Department of Pharmacy Practice
College of Pharmacy
Gulf Medical University, UAE

Title of the presentation: Fundamental principles in ensuring vaccine safety through monitoring

Date: 15.11.2023

Program Organized by: Dept. of Pharmacy Practice & Pharmacy Education Unit, JSS College of Pharmacy, Ooty

"New Connections and New Learning: Pharmacy Practice- "Learning in the flow of work."

Dr Juny Sebastian is currently serving as an Assistant Professor in the Department of Pharmacy Practice at the College of Pharmacy, Gulf Medical University in Ajman, UAE. Her PhD research focused on Vaccinology and also received a fellowship from the International Vaccine Institute (IVI) in Seoul, Korea, in 2014. She has also delivered more than 60 talks in scientific seminars and conferences. Dr. Juny Sebastian, a renowned expert in the field of vaccine safety, commenced the webinar by emphasizing the critical role of pharmacist in ensuring the safety of vaccines through virtual mode on "google meet" on 15.11.2023. The discussion focused on fundamental principles that form the backbone of effective vaccine safety monitoring programs.

Dr Juny emphasized the need for robust surveillance systems to monitor vaccine safety continuously and also highlighted the importance of timely reporting and comprehensive analysis of adverse events. The speaker delved into the process of conducting a thorough risk-benefit assessment for each vaccine. Dr. Juny stressed the need for a united effort to ensure the safety of vaccines on a global scale and insisted that the effective communication with the public was a key element in maintaining trust in vaccination programs. The session was then concluded by Dr Juny Sebastian by taking questions from staff and students. More than 94 students and staff fruitfully benefited with this invited virtual guest lecture.

A Brief Report on Invited Impact Pharmacy Lecture Series 2023 – Lecture 12
(New connections and new learning)

Name of the presenter: Dr Sathvik B Sridhar
Professor & Chairperson
Dept. of Clinical Pharmacy & Pharmacology
RAK College of Pharmacy
Ras al Khaimah, United Arab Emirates

Title of the presentation: Adverse Reactions to Cosmetics: Need of Cosmetovigilance

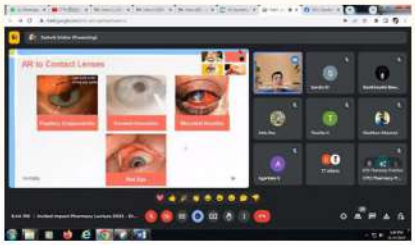
Date: 17.11.2023

Program Organized by: Dept. of Pharmacy Practice & Pharmacy Education Unit, JSS College of Pharmacy, Ooty.

New Connections and New Learning: Pharmacy Practice- "Learning in the flow of work"

Dr Sathvik is currently working as a Professor and Chairperson in Clinical Pharmacy and Pharmacology at RAK College of Pharmacy (RAKCOP), RAK Medical and Health Sciences University, Ras Al Khaimah, United Arab Emirates. Dr Sathvik has done his PhD. in Clinical Pharmacy and has undergone training in renal clinical pharmacy at Royal Adelaide Hospital and Queen Elizabeth Hospital, Adelaide, South Australia. Dr Sathvik has been awarded the Gold Medal for securing the highest marks in the MPharm Clinical Pharmacy Branch and being awarded as the best outgoing postgraduate student. He has 23 years of experience teaching and practicing clinical pharmacy in India, Malaysia, and UAE.

The webinar was delivered through virtual mode on "google meet" on 17.11.2023. Dr. Sathvik started his presentation by explaining the definitions of cosmetics and Cosmetovigilance and continued his lecture by further explaining the importance of Cosmetovigilance. He also shared his valuable knowledge on laws and ethics on cosmetics, hazardous substances in cosmetics, the scope of Cosmetovigilance in current and future and the pathways to extend the future research on Cosmetovigilance. The session was then concluded by Dr. Sathvik by taking questions from staff and students. Around 88 students and staff were fruitfully benefited from this invited virtual guest lecture.

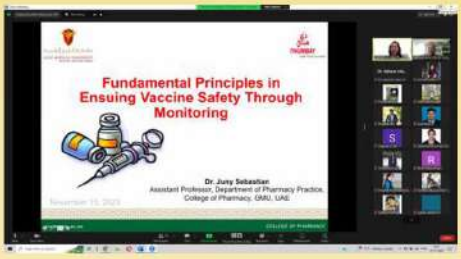


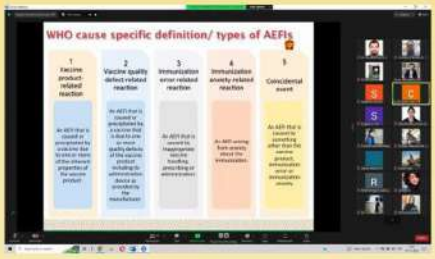
A Brief Report on Alumni Interaction Series 2023 – Lecture 02
(Bridging the gap - Connecting to the World)

Name of the presenter: Dr Haritha Atluri PharmD
Director of Program- Clinical Informatics Product
Carbon Health
San Francisco, California
Title of the presentation: "World of Electronic Health Records and Medical Informatics"
Date of the Presentation: 23.11.2023
Program Organized by: Dept. of Pharmacy Practice & Pharmacy Education Unit JSS College of Pharmacy, Ooty

Dr Haritha Atluri, a distinguished expert in the field of medical informatics, delivered an insightful presentation exploring the vast landscape of Electronic Health Records (EHR) and Medical Informatics by virtual mode on google meet on 23.11.2023. The objective of the webinar was to provide participants with a comprehensive understanding of the role of technology in transforming healthcare data management. Dr Haritha began by elucidating the fundamentals of EHR, highlighting its significance in the digitization of patient health records. The presentation covered the evolution of EHR systems, their benefits, and the impact on healthcare delivery.

Dr Haritha discussed challenges and solutions related to integrating health data from diverse sources and emphasized the importance of seamless communication between different healthcare systems. The presentation provided insights into the measures and protocols implemented to ensure the confidentiality and integrity of health information. The presenter discussed the latest technological advancements in medical informatics, including artificial intelligence, machine learning, and predictive analytics. Dr Haritha provided a forward-looking perspective on how these innovations will shape the future of healthcare data management. Dr Haritha Atluri then concluded her presentation followed by taking up queries from the audience and staff, Department of Pharmacy Practice. Over 91 participants fruitfully benefited through

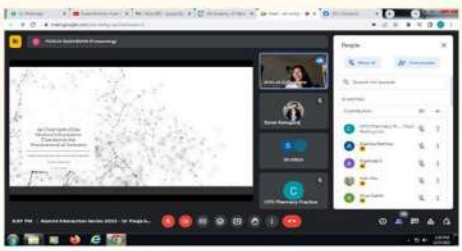




A Brief Report on Alumni Interaction Series 2023 – Lecture 03
(Bridging the gap - Connecting to the World)

Name of the presenter: Dr Pooja Sudarsan PharmD
Medical Writer
Evidera
Pennsylvania, USA
Title of the presentation: "An Overview of the Medical Information Function in the Pharmaceutical Industry"
Date of the Presentation: 09.12.2023
Program Organized by: Dept. of Pharmacy Practice & Pharmacy Education Unit, JSS College of Pharmacy, Ooty.

Dr Pooja, an esteemed expert in the field of pharmaceuticals, provided a thorough exploration of the critical role played by the Medical Information function within the pharmaceutical industry through the virtual mode on google meet on 09.12.2023. The speaker shared her valuable insights on the pivotal role of Medical Information in the pharmaceutical industry, acting as a bridge between healthcare professionals, regulatory bodies, and the pharmaceutical companies. Dr Pooja highlighted the necessity for strict adherence to regulatory guidelines to ensure the dissemination of accurate and compliant information. The presenter addressed common challenges faced by the Medical Information function, such as data management, communication, and evolving regulations. Practical solutions and best practices were discussed to overcome these challenges effectively. Dr Pooja provided insights into how emerging technologies, such as artificial intelligence and data analytics, are being integrated into the Medical Information function to enhance efficiency and provide more personalized responses to inquiries.
Dr Pooja then concluded her presentation by taking up queries from the audience and staff, Department of Pharmacy Practice. Around 83 participants fruitfully benefited through this event. v



A Brief Report of World Mental Health Day-2023

Coordinator: Dr Deepalakshmi M
Assistant Professor
Department of Pharmacy Practice
JSS College of Pharmacy, Ooty
Date : 10th October 2023
Organized by: Dept. of Pharmacy Practice, JSSCOP, JSSAHER & IPA - Nilgiris Local Branch
Venue: Govt. Higher Secondary School, Melur Hosarhatty village

Dr Rajamohamed H, Lecturer, gave the welcome address, setting the tone for the event. Dr Deepalakshmi M delivered a thought-provoking talk on mental health. She highlighted the significance of mental health awareness and provided valuable insights and strategies to maintain good mental health. Overall, her talk was a comprehensive guide to understanding, maintaining, and improving mental health, contributing significantly to the overall message of mental health awareness and well-being. A Motivational Talk and Awareness on Mental Health Well-being was given by Dr Vikashini S, Lecturer, which inspired the audience. She discussed the importance of self-care, resilience, and the pursuit of happiness as integral components of mental health and well-being. Dr Sharumathi SM and Mr Ranil Boophathi delivered a soul-soothing musical performance that resonated with the audience, promoting relaxation and emotional healing. An engaging skit was performed by PharmD students and a Research Scholar. The skit focused on raising awareness about mental health issues and the importance of seeking help and support when needed. Through compelling storytelling and emotional performances, the skit effectively portrayed the challenges and struggles faced by individuals dealing with depression.

Ms Samritha, PharmD student, led a yoga session of Surya Namaskaram which provided a practical approach to stress management and physical well-being. Research scholars and PharmD students engaged the students in several interactive games and activities that fostered a sense of camaraderie and well-being. These activities promoted mental relaxation and enjoyment. Finally, Dr Bhavatharini S, a Research Scholar expressed her gratitude to all the students, staff, and attendees for making the event a success. She emphasized the importance of continuing the dialogue on mental health and well-being.
The event was a resounding success, through informative talks and interactive activities, the program encouraged mental health and provided valuable insights on how to nurture one's mental well-being. It served as a reminder that mental health is an integral part of overall health and emphasized the significance of seeking support and understanding.



A Brief Report on Continuing Pharmacotherapy Education (CPhE) Programme on "Liposomal Methotrexate in the Treatment of Psoriasis"

Coordinator: Dr Sivasankaran Ponnusankar
Professor & Head
Department of Pharmacy Practice
JSS College of Pharmacy, Ooty.
Speaker: Dr THOWFEEQ, SPA SKIN CLINIC, Ooty.
Topic: Liposomal Methotrexate in the Treatment of Psoriasis
Organized by: Dept. of Pharmacy Practice, JSS College of Pharmacy, Ooty
Venue: JSS College of Pharmacy, Ooty
Date: 19th December 2023

Dr Thowfeeq started his lecture by describing about psoriasis, its prevalence, and the challenges in its treatment particularly about the use of Methotrexate in psoriasis treatment and its limitations and potential side effects associated with conventional Methotrexate. The speaker also emphasized the importance of liposomal formulations in improving drug targeting and reducing systemic toxicity. Dr Thowfeeq also discussed the detailed exploration of studies and clinical trials supporting the use of liposomal Methotrexate in psoriasis and its comparison of efficacy and safety profiles between traditional and liposomal Methotrexate. The speaker also talked about elucidation of how liposomal Methotrexate interacts with psoriasis pathways and understanding the targeted delivery and prolonged release mechanisms. Dr Thowfeeq described in brief about the diagnostic test to be done for diagnosing psoriasis and several attractive images to keep memorise the types of psoriasis with the images differentiating each psoriasis, the life expectancy of the patients and the aging process for the patients with psoriasis. The speaker emphasized on topic such as Clinical features of Psoriasis, Unmet medical need, Psoriasis challenges: Patient perspective and Clinician perspective, Overview of Treatment Options using NB-UVB, Historic - Goeckerman therapy, Grenz Therapy, Challenges with the systemic therapy, Challenges in topical pharmacotherapy, drug delivery challenges, Advantages of liposomal technology, Methotrexate in liposomal technology, Methotrexate gel in clinical studies, Safety of methotrexate gel using draize test, Quality of life for the patients with psoriasis. Dr Thowfeeq then concluded her presentation followed by taking up queries from the audience and staff, Department of Pharmacy Practice. Around 95 participants fruitfully benefited through this Workshop.



A Report on Health Screening Camp-2023

Coordinator: Dr M Deepalakshmi,
Assistant Professor
Department of Pharmacy Practice
JSS College of Pharmacy
Ooty.643001
Date : 15th November 2023
Organized by: Dept. of Pharmacy Practice, JSS College of Pharmacy, Ooty, JSSAHER , Mysuru & IPA - Nilgiris Local Branch
Venue: Punjab National Bank, Ooty

The Health screening camp was conducted in Punjab National Bank, Ooty in association with The Rotaract Club of Nilgiris West, Punjab National Bank, IPA and NLB by the Department of Pharmacy Practice, JSS College of Pharmacy Ooty on 15.11.2023. The event was inaugurated by Dr KP Arun, Vice-Principal, V. Dinesh, Branch Manager, Punjab National Bank, Dr R Vadivelan, President of IPA and Dr Ganesh GNK, Secretary of IPA, NLB,

In this health screening camp, about 113 patients benefited. Blood pressure was monitored using an electronic sphygmomanometer, Blood glucose was measured using a Glucometer, and Body mass index was calculated by measuring the patient's height and weight to determine whether the patient was underweight, healthy weight, overweight, or obese. Patient counseling was given to the participants according to the screening results and Patient information pamphlets were distributed to all the participants to develop awareness among the local people regarding Diabetes mellitus, Hypertension, and obesity. The awareness videos are also projected in the screening about DOs and DONTs for Diabetes Mellitus, Hypertension, and obesity.
The camp was commenced at 10.00 AM and conducted till 6.00 PM. The arrangements of the event were done by Dr Rajamohamed H, Lecturer, Department of Pharmacy Practice., Mr Sai Ahil Palanisamy, President & Ms Pradhiksha, Chair, Community Services of the Rotaract Club under the coordination of Dr M Deepalakshmi.

A Report on CSIR-Sponsored Cervical Cancer Screening Awareness Workshop

Coordinator: Dr M Deepalakshmi,
Assistant Professor
Department of Pharmacy Practice
JSS College of Pharmacy
Ooty.643001
Date : 24th November 2023
Organized by: Dept. of Pharmacy Practice, JSS College of Pharmacy, Ooty, JSSAHER , Mysuru & IPA - Nilgiris Local Branch
Venue: Sokkanali , Nilgiris

Department of pharmacy practice, JSS college of pharmacy ,Ooty, in association with IPA Nilgiris local branch, organized a CSIR-sponsored "Cervical cancer screening awareness workshop" in Sokkanalli tribal village, The Nilgiris on November 24th, 2023. The program was aimed to raise awareness about the cervical cancer risk factors, and the importance of diagnosis, screening, vaccination, treatment, and prevention of cancer among the tribal women. In this workshop, about 75 participants of the tribal community benefited. Dr S Vikashini, Lecturer, and the anchor of the event skillfully guided the audience through various segments of the program and delivered the welcome address setting the tone for the event. Followed by the felicitation of the president of Panchayant Mrs Sangeetha and the member of the panchayat Mr Sivamani by Dr M Deepalakshmi and Dr S Shanmugam.

Dr M Deepalakshmi, Assistant Professor delivered a thought-provoking talk on Cervical cancer. She highlighted the significance of cervical cancer awareness and provided valuable insights into vaccination, and prevention measures. She addressed the importance of health management, and screening, of cervical cancer. Dr Gomathi Swaminathan delivered a awareness talk on the importance of vaccination for children at the age of 9 to 12 years for the prevention of cervical cancer. She also stated that the woman should be aware of the early clinical signs to diagnose the cancer and to not feel awkward or shy to talk with family members and health care physicians. Dr S Vikashini delivered the need and importance for early diagnosis and screening of cervical cancer. Dr Mohsina hyder talked on the treatment ,chemotherapy ,vaccination doses and non pharmacological management of the disease. Lastly, Dr L Priyanka emphasized the risk factors , preventive measures, and routes of transmission of the virus to cause cervical cancer. The IVth pharm D students actively did the health screening tests which involved collection of medication history, blood pressure check,sugar check ,BMI calculation and patient counselling was done by Dr S Shanmugam Lecturer, TIFAC core co-odinator. Finally, Dr Vikashini S, Expressed her gratitude to all the women, staff, and attendees for making the event a success.

The event was a resounding success, through informative talks, and screening, the program encouraged valuable insights on awareness of cervical cancer. It served as a reminder that a healthy lifestyle is mandatory and emphasized the significance of seeking support and understanding. The program received positive feedback from the women in attendance, indicating a desire for similar initiatives in the future.




A Report on Medicine Management Symposium on Infectious Disease

Coordinator: Dr Sivasankaran Ponnusankar
Professor & Head
Department of Pharmacy Practice
JSS College of Pharmacy, Ooty.
Organized by: Dept. of Pharmacy Practice, JSS College of Pharmacy, Ooty
Venue: Auditorium, JSS College of Pharmacy, Ooty
Date: 3rd & 4th November 2023
Speakers: Dr. GRACE MARY JOHN, Pharm D, BCIDP, Infectious Disease Clinical Pharmacist, Believers ChurchMedical College Hospital (BCMCH), Thiruvalla, Kerala.
Dr. LINDA JACOB, Pharm D, Clinical Pharmacist Coordinator, Believers Church Medical College Hospital (BCMCH), Thiruvalla, Kerala.
Dr. SHERIN MARY SHAJI, Pharm D, Clinical Pharmacist, Believers Church Medical College Hospital (BCMCH), Thiruvalla, Kerala.

The Medicine Management Symposium on Infectious Disease, held on 3rd & 4th November 2023 at JSS College of Pharmacy, Ooty, served as a comprehensive platform for healthcare professionals to delve into the dynamic intersection of medicine and management in the context of infectious diseases. The participants for the symposium were IV, V and VI year Pharm D students and Research Scholars of JSS College of Pharmacy, Ooty. The total number of participants was around 90 members. The event was segregated into 6 Lectures on day 1 and 5 Lectures on day 2. In each lectures the speakers shared their valuable insights about antimicrobial agents, Pneumonia, Antimicrobial stewardship, Lower Respiratory Tract Infections, Urinary Tract Infection, Antimicrobial Usage in Urinary Tract Infections, Pharmacokinetics and Pharmacodynamics of antibiotics, Spontaneous Bacterial Peritonitis, Intra-abdominal infections (IAIs) and Skin and soft tissue infection.

The symposium aimed to foster collaboration, share insights, and explore innovative approaches to enhance patient care. Discussions included pharmacokinetics, novel drug developments, and strategies for optimizing medication regimens to improve patient outcomes. The symposium emphasized the pivotal role of pharmacists in interdisciplinary healthcare teams. A significant focus was placed on antimicrobial stewardship programs, addressing the critical need for responsible antimicrobial use. Participants engaged in discussions on combating antimicrobial resistance and implementing effective stewardship practices in healthcare institutions. Real-world case studies provided a practical dimension to the symposium. Participants analyzed and discussed cases that illustrated challenges faced in clinical practice, allowing for a deeper understanding of the complexities of infectious disease management.
Discussions centered on the challenges inherent in infectious disease management. Strategies to address medication adherence, overcome resistance, and ensure optimal patient outcomes were explored, fostering a proactive approach to healthcare challenges. The Medicine Management Symposium on Infectious Disease proved to be a vital forum for knowledge exchange and professional networking. The diverse range of topics covered, from pharmaceutical interventions to integrated healthcare practices, will undoubtedly contribute to advancing the field of infectious disease management. The speakers clarified the queries enquired by the audience and staff, Department of Pharmacy Practice. At the end of the event, the speakers were honored by Dr. Dhanabal, Principal, JSS College of Pharmacy and the certificates were distributed to the participants. Around 90 participants fruitfully benefited through this symposium.




A Brief Report on Alumni Interaction Series 2023 – Lecture 04
(Bridging the gap - Connecting to the World)

Name of the presenter: Dr Chandrika Bodagala PharmD
Group Lead
Global Scientific Communications
Eli Lilly and Company
Bangalore

Title of the presentation: "Pharmacy And Career Opportunities And How To Shape Up To Be In The Industry"
Date of the Presentation: 16.12.2023
Program Organized by: Dept. of Pharmacy Practice & Pharmacy Education Unit, JSS College of Pharmacy, Ooty.

Dr Chandrika Bodagala, a renowned expert in the field of pharmacy, conducted an informative session exploring the diverse career opportunities within the pharmaceutical industry on virtual mode through google meet on 16.12.2023. The webinar aimed to guide participants on how to navigate the industry and shape their careers for success. Dr Chandrika provided an insightful overview of the various career paths available in the pharmacy field, ranging from community pharmacy to hospital settings, research, and pharmaceutical companies. The presentation aimed to help participants understand the breadth of opportunities within the industry. The speaker discussed the key skills required for different roles within the industry and provided guidance on how participants could enhance their qualifications. Dr Chandrika shared insights into the current trends and prospects of the pharmaceutical industry. The presentation covered topics such as advancements in pharmaceutical research, the impact of technology, and the evolving role of pharmacists in patient care. The presenter highlighted the significance of networking and building professional relationships in the pharmacy industry. Dr Chandrika provided practical tips on how participants could leverage networking opportunities to enhance their career prospects. Dr Chandrika Bodagala then concluded her presentation followed by taking up queries from the audience and staff, Department of Pharmacy Practice. Around 95 participants fruitfully benefited through this Alumni Interaction Series.

A Brief Report on Alumni Interaction Series 2023 – Lecture 05
(Bridging the gap - Connecting to the World)

Name of the presenter: Mr Abraham Jacob
APAC Regulatory Affairs Oncology Lead,
Menarini Asia-Pacific,
Singapore.

Title of the presentation: "Current trends and reflections in Oncology Drug Development"
Date of the Presentation: 18.12.2023
Program Organized by: Dept. of Pharmacy Practice & Pharmacy Education Unit, JSS College of Pharmacy, Ooty.

Mr Abraham Jacob, a renowned expert in the field of Regulatory Affairs and Clinical Research conducted an informative session in JSS College of Pharmacy, Ooty on 18.12.2023. The session aimed to guide participants on drug development process on oncology. Mr. Abraham provided a comprehensive overview of the current landscape in oncology drug development, outlining the key factors that drive research and innovation in this field. The speaker highlighted several emerging trends influencing the development of oncology drugs, such as precision medicine, the changes in Clinical Trials including decentralized clinical trials, adaptive clinical trail designs, diversity in clinical trials. He also discussed about changes in Regulations & Health Policy including regulatory convergence, real world evidence, evolution of regulatory submissions, ACCESS and paying for benefit and the latest buzz like the Nitrosamine story, e-labelling, personalized medicine. Mr Abraham described the global pharmaceutical market and displayed the predicted oncology market for 2022 to 2032.

Attendees gained valuable insights into recent innovations and breakthroughs in oncology drug development, including novel therapeutic approaches and successful clinical trials. Mr. Abraham discussed the challenges faced by researchers and pharmaceutical companies in the oncology sector, emphasizing the need for collaboration and novel solutions. He also highlighted the opportunities for advancements in personalized medicine. vMr Abraham Jacob then concluded her presentation followed by taking up queries from the audience and staff, Department of Pharmacy Practice. Around 90 participants fruitfully benefited through this Alumni Interaction Series.

For clarifications/ feedback, write to:

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