CLINICA ASTRUM

A Quaterly Newsletter from the
Department of Pharmacy Practice,
Aditya Bangalore Institute of Pharmacy Education and Research
In Association With Akash Hospital

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Editorial

National Pharmacovigilance Day 2025:
Your Safety, Just a Click Away

Every year, 25th September marks National Pharmacovigilance Day in India, a day to reaffirm the importance of monitoring adverse drug reactions (ADRs) and ensuring that medicines are not only effective, but safe. This year's theme, "Your Safety, Just a Click Away: Report to PvPI", highlights how effortless participation in drug safety can be - and how vital every individual's action is.

Pharmacovigilance plays a critical role in safeguarding public health. Clinical trials can only capture so much; rare or long-term adverse effects often emerge only once medicines are used in larger, diverse populations. Systematic ADR reporting helps identify these issues early, supports regulatory decisions, and builds public trust in healthcare.

In India, the Pharmacovigilance Programme ofIndia (PvPI) has made significant strides. With hundreds of ADR Monitoring Centres and increasingly user-friendly reporting channels, PvPI encourages both healthcare professionals and patients to share safety information. The theme this year nudges us all: with just a "click," anyone - a physician, a pharmacist, or a patient- can report an ADR, contributing to national and global medicine safety.

But obstacles remain. Many ADRs still go unreported due to lack of awareness,misconceptions about who should report, or uncertainty about the process. Changes in medicine (such as biologics, biosimilars, personalized therapies) bring complex new risk profiles. The digital age offers solutions: mobile apps, web portals, artificial intelligence, and data analytics can help, but need broader deployment and trust.

To strengthen drug safety, we must focus on:

- Training and awareness among healthcare workers so ADR reporting becomes second nature.
- Patient empowerment, helping people recognize ADRs and know how to report them.
- Digital tools and innovation, making reporting easy, anonymous (if desired), and linked to actionable safety data.

National Pharmacovigilance Day isn't just ceremonial - it's a reminder that your participation matters. Under this year's theme, let us all commit to being more vigilant, more proactive, and more responsible. Every click could prevent harm, protect lives, and build a safer healthcare future.

Dr. Shobha Rani. R. Hiremath
Editor-in-Chief

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Brensocatib (DPP1 Inhibitor for Bronchiectasis):

Brensocatib is an oral dipeptidyl peptidase-1 (DPP1) inhibitor indicated for the treatment of adult patients with non-cystic fibrosis bronchiectasis (NCFBE) to reduce exacerbations. It targets neutrophil-driven inflammation, offering a novel therapy for a chronic lung disease with limited treatment options.

Class: DPP1 inhibitor

Mechanism of Action:

Brensocatib selectively inhibits dipeptidyl peptidase-1 (DPP1), an enzyme responsible for activating neutrophil serine proteases (NSPs: neutrophil elastase, cathepsin G, proteinase 3). By reducing NSP activation, Brensocatib decreases neutrophil-mediated airway inflammation and tissue damage without broadly suppressing the immune system. This mechanism is particularly valuable in non-CF bronchiectasis, where excessive neutrophil activity drives disease progression.

Recommended Dose: The recommended dosage of Brensocatib is 10 mg orally once daily, with or without food.

Dosage Forms: Available as 10 mg oral tablets.

Adverse Reactions:

The most frequently reported adverse reactions (≥10%) include, Oral candidiasis, Headache, Diarrhea, Hypertension, Rash Fatigue

Warnings and Precautions:

- Infection Risk: Increased risk of oral and systemic infections due to neutrophil modulation. Monitor for signs of infection.
- Periodontal Disease: Higher risk of gingivitis and oral complications; regular dental monitoring recommended.
- Hypertension: Monitor blood pressure periodically.
- Hypersensitivity Reactions: Discontinue in cases of severe rash or allergic reaction.
- Embryo-Fetal Toxicity: May cause fetal harm. Advise effective contraception during treatment and for at least one week after the last dose.
- Hepatic Impairment: Use with caution in patients with moderate to severe liver dysfunction; monitor liver function tests periodically.
- Renal Impairment: Dose adjustment may be required in patients with renal dysfunction; monitor renal parameters regularly.
- Drug Interactions: Avoid concomitant use with strong CYP3A4 inducers or inhibitors as they may alter Brensocatib plasma concentrations.
- Gastrointestinal Effects: Discontinue if severe diarrhea or gastrointestinal intolerance occurs.
- Skin Reactions: Monitor for severe cutaneous adverse reactions such as Stevens–Johnson syndrome or toxic epidermal necrolysis.
- Vaccination: Live vaccines should be avoided during therapy due to potential immune modulation.
- Bone Marrow Suppression: Though rare, periodic complete blood counts (CBC) are advised to detect neutropenia or other hematologic abnormalities early.
- Use in Elderly: Increased susceptibility to infections; careful monitoring is recommended in older adults.
- Discontinuation Criteria: Immediately discontinue if unexplained fever, persistent infection, or hypersensitivity occurs.

Drug Interactions:

- Strong CYP3A inhibitors/inducers: Potential alteration in Brensocatib exposure; avoid concomitant use when possible.
- Drugs affecting neutrophil function or immunity: Use caution due to additive effects on infection risk.

Use in Specific Population:

- Pregnancy & Lactation: May cause fetal harm; avoid use during pregnancy. Advise patients not to breastfeed during treatment and for at least one week after the last dose.
- Renal Impairment: No dosage adjustment required in mild-to-moderate renal impairment; limited data in severe renal impairment.
- Hepatic Impairment: No dosage adjustment in mild hepatic impairment; limited data for moderate-to-severe cases.

References:

1. FDA. Brensocatib Prescribing Information, 2024. https://www.accessdata.fda.gov
2. DrugBank: Brensocatib https://go.drugbank.com/drugs/DB15223
3. Chalmers JD, et al. Lancet Respir Med. 2020;8(7):671–682.

A total of 125 queries were received by the department during July - September 2024. The queries were pertaining to the mechanism of action, indications, class of drugs, pharmacological actions, therapeutic uses, contraindications, alternative therapy, precautions, adverse events, spectrum of activity, recent advancement in treatment, etc. from various departmental health care professionals, caretakers and patients at Akash Hospital inpatient and outpatient clinics.

Queries received from different departments of Akash Hospital-

- **Dermatology – 40**
- **General medicine - 25**
- **Obstetrics and Gynaecology - 8**
- **Paediatrics - 30**
- **Psychiatry -28**

An important query of the quarter is given below:

Query: Can targeting BTK with an oral reversible inhibitor (Wayrilz, rilzabrutinib) provide a safer and more effective treatment option for adults with persistent or chronic immune thrombocytopenia who have failed prior therapies, thereby reducing bleeding risk and improving long-term quality of life?

Ans:-

Isotretinoin, a systemic retinoid primarily used for severe, treatment-resistant acne, has long been associated with concerns regarding potential psychiatric adverse effects, particularly depression and suicidal ideation. Early reports and pharmacovigilance signals in the 1980s first raised alarms about patients developing depressive symptoms, mood changes, and even suicidal behavior during or after isotretinoin therapy. These concerns were significant enough to promptregulatoryauthoritieslikeU.S.FoodandDrugAdministration(FDA)toissuewarningsandimplement strict risk management programs, including the iPLEDGE program in the United States. Biological plausibility for psychiatriceffectsstemsfromisotretinoin'sabilitytocrosstheblood-brainbarrierandbindtonuclearretinoid receptors (RAR and RXR) in brain regions involved in emotional regulation, such as the hippocampus, limbic system, and prefrontal cortex. Experimental studies have shown that isotretinoin may affect neurotransmitter systems,particularly serotonin and dopamine pathways, which are implicated in mood regulation. Additionally, animal studies have suggested that isotretinoin may reduce hippocampal neurogenesis and increase markers of oxidative stress and inflammation, which could contribute to depressive states.

Clinical evidence regarding psychiatric side effects, however, remains mixed and inconclusive. Several case reports and observational studies have documented an association between isotretinoin and increased incidence of depression, anxiety, or suicidal behavior, especially among adolescents and young adults. A subset of patients may experience mood alterations shortly after initiating therapy, leading some clinicians to suspect a drug-induced effect. For instance, a study published in the Journal of Clinical Psychiatry (2010) found a statistically significant association between isotretinoinuse and depressive symptoms compared to antibiotics used for acne treatment. However, confounding factors- notably the psychological burden of acne itself- complicate the interpretation of these findings. Patients with severe acne often suffer from social withdrawal, low self-esteem, and body image issues, which are independently associated with depression and suicidal ideation. Interestingly, some large-scale epidemiological studies and meta-analyses havereported an overall improvement in depressive symptoms following successful treatment with isotretinoin, attributingthis to better self-image and social reintegration once the acne resolves. Therefore, it remains unclear whetherisotretinoin directly causes psychiatric effects, or whether improvements in acne actually help alleviate pre-existing depression.

Current clinical guidelines from dermatology societies such as the American Academy of Dermatology (AAD) and the British Association of Dermatologists (BAD) do not consider psychiatric illness an absolute contraindication to isotretinoinuse. Instead, they emphasize the importance of baseline screening for mental health history, especially in patients with known depression, bipolar disorder, or previous suicidal behavior. For such patients, dermatologists are advised to collaborate closely with mental health professionals and ensure that the patient is underregular supervision. Ongoing monitoring during therapy is essential, and patients should be educated about the potential for mood changes, encouraged to report symptoms promptly, and followed upat regular intervals to assess for anyemergingpsychiatric concerns.The FDA continues to list depression and suicidal ideation as rare but serious adverse events in isotretinoin labeling, and it mandates informed consent and patient education as part of its REMS(Risk Evaluationand Mitigation Strategy) guidelines.

Inconclusion, while is otretinoinmay be linked topsychiatric effects, aclearcausalrelationshipisunproven.With proper screening and monitoring, it can be safely used, and its benefits in improving acne often outweigh potential risks.

LIST OF USFDA & CDSCO APPROVED DRUGS IN APRIL - JUNE 2025

Sl. No	Drug Name	Active Ingredients	Approval Date	FDA Approved Use on Approval Date
1	Datroway	datopotamabderuxtecan-dlnk	17/01/2025	To treat unresectable or metastatic, HR-positive, HER2-negative breast cancer after prior endocrine-based therapy and chemotherapy
2	Ekterly	sebetralstat	03/07/2025	To treat acute attacks of hereditary angioedema
3	Zegfrovy	sunvozertinib	02/07/2025	To treat locally advanced or metastatic NSCLC with EGFR exon 20 insertion mutations after platinum-based chemotherapy
4	Lynozyfic	linvoseltamab-gcpt	02/07/2025	To treat relapsed or refractory multiple myeloma after ≥4 prior therapies including proteasome inhibitors, IMiDs, and anti-CD38
5	Andembry	garadacimab-gxii	16/06/2025	To prevent attacks of hereditary angioedema
6	Ibtrozi	taletrectinib	11/06/2025	To treat locally advanced or metastatic ROS1-positive NSCLC
7	Enflonsia	clesrovimab-cfor	09/06/2025	To prevent RSV lower respiratory tract disease in neonates and infants born during or entering their first RSV season
8	Tryptyr	acoltremon	28/05/2025	To treat the signs and symptoms of dry eye disease
9	Emrelis	telisotuzumabvedotin-tllv	14/05/2025	To treat locally advanced or metastatic, non-squamous NSCLC with high c-Met overexpression after prior systemic therapy
10	AvmapkiFakzynja Co-Pack	avutometinib and defactinib	08/05/2025	To treat KRAS-mutated recurrent low-grade serous ovarian cancer after prior systemic therapy

A CASE OF ISONIAZID-INDUCED HEPATOTOXICITY IN A YOUNG ADULT

A 26-year-old male presented to the Department of General Medicine with complaints of progressive fatigue, nausea, loss of appetite, dark-colored urine, and yellowish discoloration of the eyes for the past 5 days. He denied alcohol intake, use of herbal medicines, or recent blood transfusion.

Past Medical History:

The patient was diagnosed with pulmonary tuberculosis three months ago and was initiated on standard first-line anti-tubercular therapy (HRZE: Isoniazid, Rifampicin, Pyrazinamide, Ethambutol). He had been adherent to treatment without any interruptions. There was no prior history of liver disease, diabetes, or hypertension. Family history was non-contributory.

Investigation:

On examination, the patient appeared icteric with hepatomegaly (liver span 15 cm). No ascites, splenomegaly, or encephalopathy was noted.

Laboratory findings included:

· Serum Bilirubin (Total): 6.8 mg/dL (Direct: 4.2 mg/dL)
· ALT: 582 IU/L (Normal: <40)
· AST: 464 IU/L (Normal: <40)
· ALP: 210 IU/L
· INR: 1.3
· Hepatitis A, B, C, E serology: Negative
· Ultrasound Abdomen: Fatty liver with mild hepatomegaly; no biliary obstruction

Causality assessment (RUCAM score) suggested a probable drug-induced liver injury (DILI) due to isoniazid.

Treatment:

The anti-tubercular regimen was immediately modified: isoniazid and pyrazinamide were discontinued, while rifampicin and ethambutol were continued under DOTS supervision. The patient was started on levofloxacin as part of a liver-friendly regimen. Supportive treatment included IV fluids, ursodeoxycholic acid, and nutritional supplementation.

Liver function tests were monitored weekly. Over the next 4 weeks, his bilirubin and transaminase levels gradually improved, and jaundice resolved.

Discussion:

Isoniazid is one of the most common causes of anti-tubercular drug–induced hepatotoxicity. The mechanism involves hepatocellular necrosis due to toxic metabolites (hydrazine) produced during acetylation in the liver. Risk factors include chronic alcohol use, advanced age, concomitant hepatotoxic drugs, and genetic variations in acetylator status.

This case highlights the need for baseline and periodic monitoring of liver function tests in patients on anti-tubercular therapy. Early recognition and prompt modification of the regimen are essential to prevent fulminant hepatic failure.

Drug-induced hepatotoxicity must always be considered in patients on long-term anti-tubercular therapy presenting with jaundice. Withdrawal of the offending drug and use of an alternative regimen can be life-saving.

Conclusion:

This case emphasizes the importance of monitoring patients on hepatotoxic medications like isoniazid. Patient education about early warning symptoms (anorexia, dark urine, jaundice) plays a critical role in timely reporting and intervention. A multidisciplinary approach involving physicians, microbiologists, and public health workers is essential for both effective TB control and prevention of drug-related complications

ADRs MONITORED BY THE DEPARTMENT

A total of 37 Adverse Drug Reactions (ADR) were identified, monitored, detected and reported by the Department of Pharmacy Practice during April - June 2025. The following are some of the suspected ADRs that were either reported or detected by the Department of Pharmacy Practice at Akash Hospital. In most of the cases, there was a change in the drug therapy for example, cessation of suspected drug, or reduction in dose or alternative drug and/or either specific or symptomatic treatment for the suspected ADR.

NAME OF THE DRUG	ADVERSE DRUG REACTION
Romvimza (vimseltinib)	Liver enzyme ↑, edema, fatigue
Qfitlia (fitusiran)	Thrombosis, liver toxicity
Gomekli (mirdametinib)	Rash, diarrhea, fatigue
Avmapki Co-Pack (avutometinib + defactinib)	Nausea, rash, cytopenia
Datroway (datopotamabderuxtecan)	Stomatitis, fatigue, anemia
Journavx (suzetrigine)Treosulfan (Grafapex)	Mildnasal irritation, dizziness
Encelto (revakinagenetaroretcel)	Nausea, stomatitis, neutropeniaInfusion reactions
Neffy (epinephrine nasal spray)	Nasal irritation, tachycardia
Paltusotine	Data pending (trials ongoing)

PAPER PUBLICATIONS

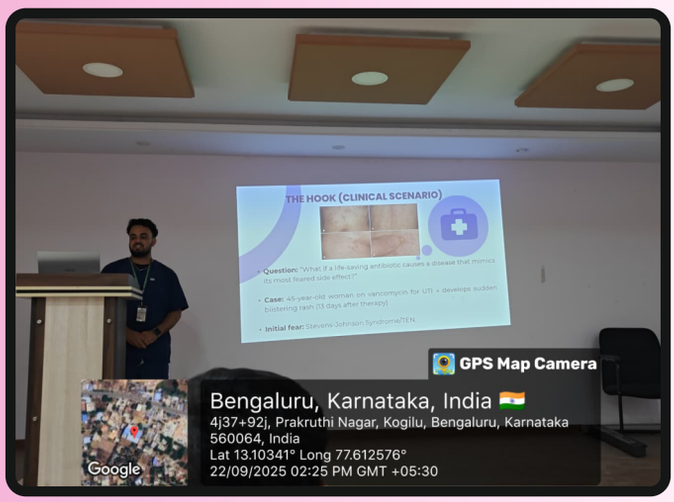
1. Khan, Z., Rekha, M. M., Hiremath, S. R. R., & Shapur, S. R. (2025). A Comprehensive Study on Antibiotic Prophylaxis Practices Across Diverse Surgical Modalities. Journal of Pharmaceutical Care, 93-100.
2. Srinivasan, S., D, H., Shobha Rani, R. H., & V, D. (2025). Evaluating factors influencing tuberculosis treatment outcomes and the impact of COVID-19 on TB incidence in Bengaluru, India (2017–2023). Infectious Diseases, 1(1), 1–9.
3. Thomas, N. V., Samanta, S., Sushma, M., Madhuvan, H. S., & Shobha Rani, R. H. (2025, August 15). Clinical pharmacists vs. antimicrobial resistance: Evidence-based strategies and stewardship impact in modern healthcare: A review. Journal of Drug Delivery and Therapeutics, 15(8), 199–206. https://doi.org/10.22270/jddt.v15i8.7286
4. Sinha, S., Maity, S., Guntaka, V., & Shobha Rani, R. H. (2025). A comprehensive review of medication therapy management in chronic disease. International Journal of Research and Analytical Reviews, 10(4), 605–621. https://doi.org/10.35629/4494-1004605621

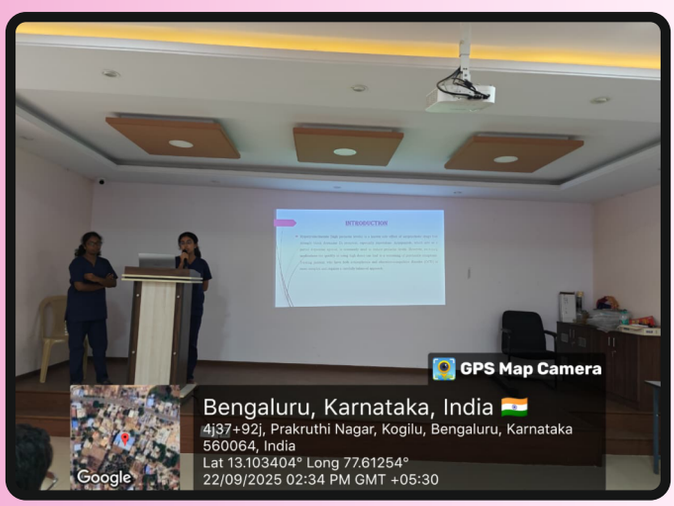
FACULTY DEVELOPMENT PROGRAMME - FDP

1. Dr. M. Manasa Rekha served as a key speaker and delivered a presentation on “Bioinformatics – Its Applications in Research” during the five-day e-FDP on “Contemporary & Emerging Technologies in the Medical and Pharmacy Sector” held from 26th–30th May 2025.
2. Dr. M. Manasa Rekha attended a five-day online Faculty Development Program on “Strategies to Overcome Challenges in Pharmacology and Drug Development” conducted by Dattakala Institute of Pharmaceutical Science and Research in collaboration with ABPA, Maharashtra, from 28th July–1st August 2025.
3. Dr. Muchukota Sushma participated in a one-week international online FDP on “Artificial Intelligence in the Pharmaceutical Industry and Academia: Transforming Drug Discovery, Development & Education” organized by ShriRam College of Pharmacy from 18th–23rd August 2025.

Events organized by the Department of Pharmacy Practice

On 4th July 2025, the **Indian Pharmaceutical Association, Bangalore (Urban)** Local Branch, in association with the Department of Pharmacy Practice at Aditya Bangalore Institute of Pharmacy Education and Research (ABIPER), organized a seminar on **"Introduction to Pharmacoeconomics and Outcomes Research."**





On the occasion of **National Pharmacovigilance Week 2025,** observed from 17th to 23rd September 2025, the Indian Pharmaceutical Association, Bangalore (Urban) Local Branch, in association with the Department of Pharmacy Practice at Aditya Bangalore Institute of Pharmacy Education and Research (ABIPER), organized an ADR Case Contest with the theme “Safe Medicines, Safe Lives.”

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Editor-in-Chief: Dr. Shobha Rani. R. H, Professor and Director, ABIPER
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