



MEDUSANE
Med Education For all

INK AND INCISION

THE OFFICIAL MAGAZINE OF MEDUSANE

EDITION I | OCTOBER 2026

INSIDE THIS EDITION



WHO HEALS
THE HEALERS?



AI. MEDICINE.
WHAT'S NEXT?



ONE CLUE.
ONE DIAGNOSIS.
ONE LIFE.



MASTER THE ART
OF THE ABSTRACT.



MEDICINE HAS
NO FINISH LINE.



THE FIVE ELEMENTS OF MEDICINE

Medicine is often defined by precision – diagnoses, dosages, and data. Yet healing began long before textbooks and laboratories, rooted in nature itself. The five elements – Water, Earth, Fire, Air, and Space – remain present in every act of care.

Water sustains life, flowing through our veins and every living cell. The ocean, vast and largely unexplored, reflects medicine itself: deep, complex, and full of discoveries yet to come.

Earth grounds medicine in nature. Many modern drugs trace their origins to plants, fungi, and marine life – reminders that nature was medicine’s first laboratory.

Fire drives transformation. It exists in metabolism, immunity, and the determination to fight disease. From surgery to modern technology, fire turns knowledge into action.

Air is life at its most essential. Every breath reflects the delicate balance medicine works daily to protect through respiratory care and oxygen support.

Space is where medicine becomes human – the silence after a diagnosis, the empathy beyond tests and scans, and the connection between doctor and patient.

Together, these elements reveal medicine as both science and compassion.

Volume 1, Issue 1 – Ocean :

Every life begins in water. It flows through us, sustains us, and connects all living beings. The ocean – ancient, deep, and still largely unexplored – remains one of medicine’s greatest frontiers, offering discoveries that continue to shape healing.

EDITORIAL *Note*

“

We spend years studying
the human body - yet
it *continues to surprise us.*

”

Medical education can map the ocean, but it cannot teach the waves. Somewhere between the textbook and the patient, between theory and lived experience, something essential is often left unspoken.

That is precisely the space Ink and Incision was created to inhabit - a platform that bridges the distance between medical knowledge and clinical reality, built by the medical community, for the medical community. Our commitment is simple: to uphold academic excellence while honouring the deeply human experiences that exist behind every diagnosis, decision, and discovery.

This inaugural issue, centred on Medical Education, brings together articles that provoke thought, clinical cases that challenge reasoning, reflective writing that honours lived experiences, and a dedicated Research Wing that encourages inquiry, innovation, and exploration.

We invite you to engage with this issue deliberately to read critically, question what you know, challenge your diagnostic reasoning, explore the world of research, and see your own journey reflected within these pages. Because medicine, at its core, has always been more than science alone; it is equally empathy, uncertainty, resilience, and humanity.

This is Volume 1, Issue 1 - the opening page of a publication that takes medicine seriously, and its people even more so.

Welcome to *Ink and Incision*.

With regards,

Pavisree R

Editorial wing Joint Secretary



Foreword

FROM
GUEST

It gives me immense pleasure to extend my warm greetings and congratulations to Team Medusane on the launch of **Ink and Incision**, its inaugural magazine, on the occasion of **Medmemorate 2026**.

Medicine is a profession built not only upon scientific knowledge and clinical expertise but also upon curiosity, compassion, creativity, and an enduring commitment to humanity. While medical institutions provide the foundation of professional education, it is often the initiatives undertaken beyond the classroom that shape students into confident professionals, responsible leaders, and compassionate doctors.

Over the years, through my association with the **Indian Medical Association – Medical Students Network (IMA-MSN) and Junior Doctors Network (IMA-JDN)**, I have had the privilege of witnessing the extraordinary potential of young medical minds. When students are encouraged, mentored, and entrusted with opportunities, their ideas can evolve into meaningful initiatives that make a lasting contribution to the medical fraternity.

Medusane stands as a fine example of this spirit.

What began as a student-driven effort to make medical education more accessible has grown into a vibrant academic community, fostering learning, mentorship, research, skill development, and leadership among medical students across the country. Such initiatives reaffirm my belief that students are not merely the future of our profession; they are equally capable of contributing to its progress today.



The inaugural edition of Ink and Incision, inspired by the theme Ocean, beautifully reflects the vastness of medical knowledge and the endless possibilities for exploration and discovery. By bringing together academic perspectives, clinical experiences, research, and creative expressions, this publication reminds us that the making of a good doctor involves much more than mastering textbooks. It requires the ability to question, reflect, innovate, and understand the human experience.

The Indian Medical Association has always recognised the importance of nurturing young medical professionals. Through platforms such as IMA-MSN and IMA-JDN, we remain committed to encouraging student leadership, academic excellence, ethical professional development, and meaningful participation in the advancement of healthcare. I firmly believe that supporting responsible student-led initiatives is an investment in the future of Indian medicine.

I sincerely congratulate Dr Raghunandan R, the founder and chairman of Medusane, along with the editorial team, contributors, and every young mind whose dedication has brought this publication to life.

May **Ink and Incision** continue to inspire curiosity, encourage scientific thinking, amplify young voices, and nurture a generation of doctors who lead with knowledge, integrity, and compassion. **My best wishes to Team Medusane for Medmemorate 2026 and for many more milestones in the years ahead.**

With warm regards,

Dr K. M. Abul Hasan

Honorary Secretary General – Elect, Indian Medical Association

Chairman, IMA Hospital Board of India





Honorary Chairperson

It gives me great pleasure to present the first edition of **Ink and Incision**, a notable achievement that showcases the dedication, creativity, and spirit of our student community.

The theme of this edition, inspired by the ocean, symbolizes the journey of medical education. Just like the vast sea, the field of medicine is large, dynamic, and always changing. As students' progress through their medical training, they navigate a sea of knowledge, discovering new ideas, building essential skills, and developing the values that define compassionate and capable healthcare professionals.

While medical education relies on scientific rigor and clinical excellence, it also promotes curiosity, critical thinking, effective communication, and lifelong learning. Initiatives like **Ink and Incision** offer an important space for students to share their ideas, express their experiences, and take part in intellectual and creative activities beyond the formal curriculum. These opportunities greatly support the overall growth of future medical practitioners.

This publication showcases the enthusiasm and talent of its contributors. Through articles, reflections, literary works, and artistic expressions, students display their ability to merge academic insight with creativity and thoughtful observation. Their efforts highlight the diverse perspectives that enrich our academic environment and bolster the culture of learning within our institution.

I commend the editorial team, contributors, and everyone involved in bringing this first edition to life. Their dedication, teamwork, and determination have transformed a vision into a valuable publication that will inspire future generations.

As we celebrate the release of this first edition, I am confident that **Ink and Incision** will continue to thrive as a platform for knowledge, creativity, and scholarly engagement. I hope it encourages students to explore new ideas, deepen their understanding, and contribute positively to the advancement of medicine and society.

Congratulations to everyone associated with this project, and best wishes for **Ink and Incision's** continued success.

With warm wishes
Dr. Jamuna Rani



Chairman

Every generation of doctors inherits a body of knowledge and a responsibility to question it, enrich it, and pass it forward with care. It is in this spirit that I welcome the inaugural issue of Ink and Incision, a new chapter in Medusane's journey.

My vision for Medusane is to create opportunities for the medical community to learn, contribute, and grow together. This magazine gives that aspiration a shared home. I hope it becomes a space where a student feels confident asking a difficult question, a clinician finds value in reflecting on an encounter, and a young researcher takes the first step towards meaningful inquiry.

Within the magazine's Five Elements of Medicine concept, Ocean is a fitting theme for this beginning. Its depth reminds us of how much remains to be understood. Its changing waters echo the uncertainties we encounter in medicine. Approaching both requires curiosity, humility, and the willingness to keep learning even as our experience grows.

The inaugural issue's focus on medical education is particularly close to my heart. As a psychiatry Resident and educator, I believe that learning to listen deserves as much attention as learning to explain. Sound clinical reasoning, careful research, and an understanding of human experience must develop alongside one another. My hope is that the cases, reflections, and research discussions in these pages will encourage readers to bring that balance into their own learning and practice.

I extend my sincere appreciation to the editorial team, authors, designers, and everyone whose dedication has brought Ink and Incision to life. Establishing a publication takes initiative, earning the trust of its readers will require continued care, honesty, and openness to new perspectives.

To our readers: I invite you to make this publication your own - through your questions, contributions, and constructive criticism. May this first issue begin a lasting conversation about how we learn medicine and how we serve the people who place their trust in us.

With warm wishes,
Dr Raghunandan R



Vice Chairman

It is a matter of immense pride and happiness to be a part of the inaugural edition of Ink and Incision, a publication that beautifully reflects the knowledge, imagination, experiences, and aspirations of our student community.

Medical education is often defined by classrooms, clinical postings, examinations, and the pursuit of scientific knowledge. Yet, the journey of becoming a doctor extends far beyond textbooks and hospital corridors. It is also a journey of observation, reflection, empathy, creativity, and personal growth. Ink and Incision brings these dimensions together, providing students with a meaningful platform to express themselves beyond academics.

The ocean-inspired theme of this first edition aptly represents the voyage undertaken by every medical student. The sea can be calm or challenging, familiar or unexplored, much like the path through medical training. With every experience, students learn to navigate uncertainty, overcome challenges, discover their strengths, and move forward with greater knowledge and confidence. Every wave encountered contributes to shaping not merely competent doctors, but thoughtful and compassionate human beings.

What makes this publication special is the diversity of voices it carries. Through scientific articles, personal reflections, literature, poetry, artwork, and creative expression, Ink and Incision offers a glimpse into the thoughts and talents within our academic community. It reminds us that medicine and creativity are not separate pursuits; both require curiosity, sensitivity, discipline, and the courage to explore new perspectives.

I sincerely appreciate the editorial team for transforming an idea into this remarkable first edition. Bringing together contributors, coordinating their work, refining content, and presenting it as a cohesive publication requires dedication, teamwork, and vision. I congratulate every student who has contributed to these pages.

I hope Ink and Incision grows with every edition and becomes a cherished tradition within our institution — a space where students can question, create, reflect, learn, and inspire one another.

May Ink and Incision continue to make waves, inspire minds, and leave a lasting imprint for generations to come.

With warm wishes,
Dr. Arunagiri G

Convenor



What began as a simple conversation among students has now become the very first edition of **Ink and Incision**. This magazine was created to give medical students a space to express their creativity, emotions, experiences, and perspectives beyond academics. Every article, artwork, and contribution reflects the passion and dedication of students who balanced creativity alongside the demands of medical life. I sincerely thank everyone who contributed through writing, designing, editing, organizing, and supporting this initiative. This edition belongs to all of us. I hope **Ink and Incision** continues to inspire expression, connection, and creativity among students for many years to come.

With gratitude,
Vigneshwaran V

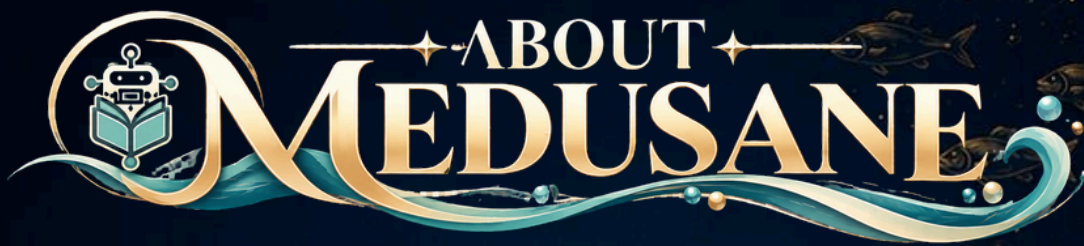
Co-Convenor



Medusane has been more than a student-driven learning platform for me, it has been a journey of transformation. It took me from being a hesitant student to becoming a confident leader, opening doors to **an International Best Student Club Award, ICMR-STs 2025 Scholarship**, and several leadership opportunities.

But beyond the accolades, Medusane taught me to overcome fear, find my voice, embrace opportunities, and build meaningful connections. It gave me not just knowledge, but confidence, purpose, and the courage to dream bigger. Being part of **Ink & Incision**, Medusane's first magazine, makes this journey even more special. It is a celebration of the ideas, journeys, achievements, and voices that make this community what it is.

For the Journey, always
Lalitha M



Founded in 2020 amidst the rapid digital transformation of medical education, Medusane emerged as a student-driven initiative focused on making medical learning inclusive, accessible, and enriching. Initially a small YouTube channel addressing the challenges faced by MBBS students, especially in underserved areas, it has now grown into a nationwide peer-learning movement.

In the past five years, Medusane has become a trusted academic resource for medical students across India, amassing over 25,000 subscribers and more than 2 million YouTube views. The platform offers a variety of academic content, including clinical case discussions, high-yield theory lectures, MCQ analysis, and career guidance modules, effectively filling gaps left by traditional curricula.

Beyond academics, Medusane prioritizes mentorship and student well-being, offering sessions on stress management, examination strategies, ECG interpretation, ABG analysis, radiology basics, and clinical decision-making.

A significant achievement in its fifth year was Medmemorate'25, a national virtual conference on clinical skill development and exam preparedness, followed by a three-day academic event featuring sessions on CT Imaging, Systematic ECG Analysis, and other core subjects. The event also included a Research Paper Presentation, Poster Presentation, and a National-Level Cardiology Quiz.

Today, Medusane operates as a structured academic community with dedicated wings: Academic, Administration, Editorial & Publication, Outreach & Public Relations, Research, Social Impact, and Technology. Rooted in service and driven by students, Medusane remains committed to "Med Education for All."



TECH WING

Innovating today.
Transforming tomorrow.



EDITORIAL WING

Crafting knowledge.
Creating impact.



ACADEMIC WING

Empowering minds.
Enriching futures.



OUTREACH WING

Spreading awareness.
Inspiring action.



ADMIN WING

Managing with precision.
Supporting excellence.

TEAM DETAILS

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A mission of impact.



SOCIAL IMPACT WING

Connecting communities.
Creating change.



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Exploring possibilities.
Advancing knowledge.

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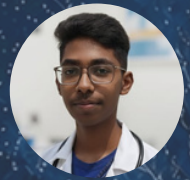
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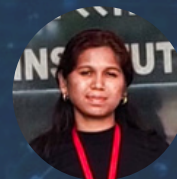
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THEME INTRODUCTION

Medical Education: An Ocean of Knowledge

Like the vast ocean, medical education is deep, ever-expanding, and full of discovery. What begins as a single step into the shoreline of textbooks soon unfolds into an endless journey beneath the surface where curiosity drives exploration and every layer reveals something new. Just as the ocean holds mysteries waiting to be uncovered, medicine challenges students to dive deeper, question more, and continuously seek understanding.

The early years of learning are like standing at the shore grasping the basics, building foundations, and preparing for what lies ahead. But as one progresses, the waters deepen. Clinical experiences become the currents that shape thinking, guiding students through real-life challenges, patient interactions, and critical decision-making. At times, the waves may feel overwhelming, but they also teach resilience, adaptability, and strength.

In this ocean, knowledge is not static; it flows, evolves, and connects like tides. Technology, research, and innovation act as guiding stars, helping future doctors navigate through uncertainty. Yet, beyond all science and skill, it is empathy that anchors this journey, reminding every learner that behind every case is a human story.

This magazine invites you to explore the ocean of medical education, its depth, its challenges, and its beauty. Whether you are just stepping into the waters or already swimming through its depths, remember: the journey is not about reaching the end, but about learning to navigate, adapt, and grow within it.

Because in medicine, like the ocean, there is always more to discover.





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THE WEIGHT WE CARRY: STRESS, MEDICAL EDUCATION, AND THE RISE OF SUBSTANCE USE AMONG INDIAN MEDICOS



-Dr. Raghunandan R, MBBS, MD Psychiatry
Amrita Institute of Medical Sciences & Research
Institute, Kochi

"Physician, heal thyself" - but what happens when the healer is too broken, too ashamed, or too afraid to ask for help?

The Paradox Nobody Talks About:

There is a quiet crisis unfolding inside the very institutions that train India's doctors. In lecture halls, hospital wards, and hostel rooms, thousands of medical students and residents are silently struggling. Every medical student in India knows what burnout feels like even if they have never said the word aloud. They know the 3 AM canteen runs fueled by anxiety, the hostel room that feels less like home and more like a cell, the exam results that collapse months of effort into a single number. What they are less likely to talk about in classes, in wards, or even among close friends - is what they reach for when it all becomes too much.

A drink. A cigarette. A sedative borrowed quietly from the ward.

This is not a problem quoted from Western publications. The data from India quoted in the landmark **2024 National Medical Commission (NMC) Task Force Report on Mental Health and Well-being of Medical Students** paints a picture that demands urgent, honest conversation.

This article traces the journey from academic stress to substance use among Indian medicos, contextualizes it within the unique pressures of Indian medical education, and explores what we can and what we must do as a community.

This article traces the journey from academic stress to substance use among Indian medicos, contextualizes it within the unique pressures of Indian medical education, and explores what we can and what we must do as a community.

What the Numbers Tell Us:

In 2024, the National Medical Commission (NMC) released its National Task Force Report on Mental Health and Wellbeing which is the most comprehensive survey of Indian medical students ever conducted, covering 37,962 respondents across undergraduate and postgraduate programmes. The findings were stark:[1][2]

- **84% of postgraduate students reported moderate to very high stress**
- **31.2% of PG students had experienced suicidal ideation**
- **56% of residents do not get a single weekly off day**
- **19% of PG students expressed a need to use substances specifically to cope with stress [1]**

On the ground, substance use studies confirm what the stress data predicts. A 2025 study at medical college in Indore found that 36% of 400 medical students reported current substance use with alcohol leading (47.2%), followed by tobacco (26.6%) and cannabis (7.9%).



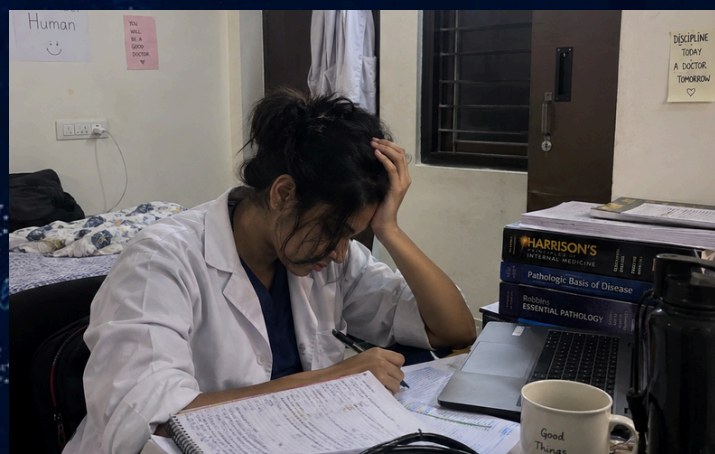
Critically, a study conducted in north India found that 72.4% of student substance users cited psychological stress as the primary reason for their use out of which 91.7% were fully aware of the harm they were doing to themselves yet they continued. That last statistic deserves a moment of pause which tells us that **Knowledge is not protection and Awareness alone does not heal.**[3][4]

Across multiple **Indian studies**, one pattern is unmistakable: **substance use rises with seniority**. The intern uses more than the second-year MBBS student. The PG resident uses more than the intern. The deeper one goes into the system, the heavier the burden and the higher the use.

Why India's System Is Different:

Indian medical education carries stressors that are uniquely its own. It begins with NEET UG, a single examination that filters lakhs of aspirants down to a handful of seats, conditioning survivors to believe that relentless pressure is simply what achievement looks like. By the time students arrive in medical college, the tolerance of suffering is already hardened.[5]

Then comes hostel life where they are in isolation from family, immersion in a **peer culture** where substances are normalised as bonding rituals and stress-relief mechanisms. Bengaluru researchers noted that substances had become as accessible as food delivery: *"You can get them delivered just like pizza."* [6][7]



For PG students, **inadequate stipends** (flagged as insufficient by 72.2% of residents in the **NMC survey**) and crushing duty hours add financial and physical **exhaustion** to the psychological load. And layered beneath all of this is ragging which the NMC survey found had been experienced by over 2,486 MBBS students which is an early lesson in institutional cruelty that teaches juniors, from the very first week, that their distress is expected to be endured in silence. [2][8][1]

That culture of silence may be the most dangerous stressor of all. The NMC found that **44%** of students who needed mental health help avoided seeking it due to confidentiality fears, **20%** due to social judgment, and **9%** due to fear of losing postgraduate admission prospects. Over **50%** of faculty believed student mental stress was "an excuse". In a system where even teachers dismiss distress, what are students left with except the hostel, the bar, and the borrowed pill?[9][2]

Why This Matters Beyond the Individual:

The **consequences** of unaddressed **substance use** among Indian medicos radiate outward in ways that affect the entire healthcare system.

1. **For the trainee:** Substance use accelerates burnout, depressive episodes, and **academic underperformance**. In extreme cases, it contributes to the growing number of medical student suicides that have prompted the NMC to constitute emergency task forces.[2][7]
2. **For patient care:** A resident managing substance dependence is a patient safety risk. Impaired judgment, absenteeism, and emotional unavailability compromise clinical quality at the bedside. India cannot afford this as a country with one of the highest doctor-to-patient ratios of burden in the world.[11]
3. **For the profession:** Each graduating doctor carries the psychological residue of their training into practice.

The physician who learned to **cope** with stress through alcohol in residency does not automatically unlearn that coping strategy upon graduation. The seeds of long-term physician impairment are planted during training.

This is not an individual problem requiring individual willpower. It is a systemic failure requiring systemic solutions.

What Needs to Change:

The NMC Task Force issued **40 recommendations** in 2024 - including **24/7 counselling via Tele-MANAS**, **mandatory weekly offs for residents**, and structured **wellness programmes** in medical colleges. These exist on paper. The question is whether institutions will implement them, or file them alongside every other well-intentioned report that collected dust.[2][1]

At a more immediate level, three things can shift the culture without waiting for top-down reform:

1. Confidential, Dedicated Resident Wellness Cells

which is not routed through the Dean's office, not attached to academic records; genuinely confidential spaces where trainees can speak without professional consequence.[9][10]

2. Peer-led conversations by platforms like Medusane, student associations, and resident doctors' associations have a critical role to play in normalising conversations about mental health and substance use among Indian medicos - not through shame or stigma, but through solidarity and lived experience. When a senior resident speaks openly about burnout or a student body runs a non-judgmental awareness campaign, it shifts what is permissible to feel and say inside these institutions.

3. Formal recognition of the problem - Substance use among medical trainees is a patient safety issue, not a moral failing. Policies that treat it punitively drive it underground.

Policies that offer treatment pathways, without ending careers, save both physicians and their future patients.

4. The MBBS curriculum must formally incorporate stress management, coping skills, and mental health literacy, not just as an elective add-on, but as a core competency. Importantly, training in **Screening, Brief Intervention, and Referral to Treatment (SBIRT)** is currently recommended for inclusion in medical curriculum.

A Note From One Resident to Another:

If something in these pages felt uncomfortably familiar, don't worry! you are not alone. What you are experiencing is the predictable outcome of a system that demands everything and replenishes almost nothing. Naming what is happening to yourself, to a colleague is not unprofessional. It is, in fact, the most clinical thing you can do. Accurate diagnosis is always the first step toward treatment.

The healers need healing too. And this is the page where we finally say so.

Team Medusane and myself will be available for your support.

Reach us - meducation4all@gmail.com

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QUICK RECAP:

- Patient Safety Matters: Impairment associated with substance use can affect clinical judgment, professional functioning, and the quality of patient care.
- A Systemic Problem: Substance use among medical trainees should be understood as a public health and institutional concern, not simply a failure of individual willpower.
- Support Over Stigma: Confidential resident wellness services, peer-led conversations, and accessible counselling can help create safer environments for seeking assistance.
- From Recommendations to Action: Implementing the NMC Task Force recommendations and building supportive medical institutions are essential steps towards healthier trainees and safer healthcare.
- Stress Increases With Seniority: Academic pressure, clinical responsibilities, and prolonged working hours may intensify as trainees progress through medical education.
- Unique Indian Challenges: Competitive entrance examinations, hostel isolation, peer influence, inadequate stipends, and ragging can compound existing stressors.

BETWEEN THE SCALPEL AND THE SOUL



-Dr. Arunagiri G, 2021 Batch, CRRI
Thiruvallur Government Medical College

The symbolism of the white coat, the stethoscope, the scalpel, the operating theatre, and the prescription pad are used to represent medicine. These are used to represent knowledge, discipline, accuracy, and the marvellous ability of science in understanding, diagnosing and treating the human body. But there is another aspect of medicine that can't be so easily counted: the person with the disease. It is the fear in a shaking voice, a family waiting outside an operating theatre, the silent gratitude of a patient recovering from an operation, and the huge burden shouldered by the person on the other side of the consultation table. Medicine lies in between the scalpel and the soul.

Precision is represented by the scalpel. Requires knowledge, skill, decisiveness, and control. A surgeon should be well familiar with the exact location of incision, what are the structures under the skin, what to preserve, and what to remove. Few opportunities to use estimation. But the soul stands for something else. It reminds us of our fragility, our pain, our insecurity, our fear, and our hope. It gives us a reminder that the individual on the operating table is not just a diagnosis, a case number, or a set of laboratory reports. These two factors are mandatory. The best of operating procedures can cure the disease but compassion can make a huge difference in the experience of being treated.

From early in medical school, students are educated about the human body in an unprecedented level of detail. We learn bones, nerves, arteries, pathways, mechanisms, drug actions, clinical signs,

investigations and treatment algorithms by rote. We learn how to recognize abnormalities and what steps should be taken to fix them. But medicine slowly reveals another lesson, one that is not usually covered in examinations. Patients may not recall all of the medicines they were given or all of the tests they were ordered to take, but they do remember the doctor who explained their illness in a patient way, the person who sat with them when a diagnosis was frightening, and if their questions were answered or ignored. A single comforting word can stick in the mind of a patient for a long time after their doctor has written a prescription.

When you're a medical student and a young doctor, it's so easy to get lost in all the knowledge you need to learn. There is always something else to learn, something new to remember, something new to examine, something else to do! In this quest for competence, a danger exists to consider medicine as a string of problems waiting to be solved. A fever is a differential diagnosis, a scan is a finding, and a patient is "the appendicitis case in bed seven." This type of communication can be easy in the fast pace of the clinic, but can subtly distance the physician from the patient seeking treatment.

For each "case" there is a life that goes on outside of the hospital. The woman awaiting surgery may also be



a mother who is concerned who will look after her children. The senior citizen with shortness of breath may fear that his admission will put a strain on the family. The young patient with a tough diagnosis might not even be considering survival statistics – they are thinking about plans and dreams that now seem uncertain. When we are aware of these facts and realise that illness is not just a physical thing but a person, their family, relationships and their sense of security, then clinical medicine takes on more meaning.

This does not equate with an absence of evidence or the replacement of scientific judgment with compassion. Medicine must remain evidence-based and ethical and must be based on sound clinical reasoning. In many circumstances, it will be necessary for doctors to make tough choices, even when emotions are involved. But competence and compassion do not contradict each other: The best in medicine requires both. Few things are more necessary to a surgeon than steady hands, and the humility to know what those hands are to the patient. Doctors need to think analytically, and to listen. A doctor cannot always cure a patient, but he can always communicate, comfort, guide and keep patient's dignity intact.

This is even more essential with the advancement of medicine. Today, organs can be visualised in unprecedented detail, complex robotic procedures can be performed and vast amounts of clinical data analysed, and AI is able to help with diagnosis



and decision making. These are things to be celebrated and recognised. The more technologically advanced medicine is, the more important the human factor might be. No machine can convey the feeling of a scared individual gazing at a doctor and asking, "Will I be fine?" The response might need some medical knowledge but the way it is given needs more: a touch of honesty without cruelty, hope without false reassurance, confidence without arrogance, empathy without losing objectivity.

They can't be taught exclusively from textbooks. They grow organically through patients, mentors, mistakes, hard conversations, late nights, successes, failures and times that push us to consider what kind of doctors we want to be. Learning is not always a classroom activity, but can be a learning experience in the form of a lesson. Not all learning is a classroom activity, but a lesson is an important learning experience in medicine. Humility is learned when a diagnosis that we thought was correct is incorrect. Patience is taught to us by the patient who must be explained things several times. Team work is learnt when we understand that one doctor does not operate on himself/herself. We learn resilience when we are wearing ourselves out with our work, we learn gratitude when a patient recovers, we learn the limits of medicine when, in the face of all we have done, the outcome is not the one we had hoped for.

These experiences form a professional identity that is not adequately measured by examinations. Going from medical student to doctor is not just about gaining knowledge, it is a shift in the perception of responsibility. As years go by, the white coat is more than a coat, the stethoscope is more than a stethoscope, and the scalpel is more than a scalpel. They all start to symbolize the respect that one human has for another. This trust is one of the greatest, and at the same time one of the most demanding privileges of medicine.

Doctors give access to the patient's most in-tune moments. They have fears they are not sharing with anybody else.

They allow for exams that require a lot of trust, and entrust their health, and potentially their very lives, into the hands of folks they've possibly never met, except for moments before. This trust requires skill and also respect, sensitivity, and integrity. It brings us to the awareness that each clinical encounter is a human encounter, and not just another business transaction.

As doctors of future generations enter a new age of advanced medicine, it is our responsibility to not make way for science, to make health care emotionally remote. We must keep striving to excel, learn new technologies, engage in research, and do no limits what medicine can accomplish. Occasionally, though, it is important to keep in mind the purpose of medicine. Diseases aren't illnesses that can be cured with medicine, they're people who are ill.

Medicine is not all science, not all art. It is lived in the space that exists between evidence and empathy, precision and compassion, knowledge and understanding. It has to do with the scalpel and the soul. Perhaps it is learning to have both with the same care that makes a true good doctor.

QUICK RECAP:

- **The Power of Communication:** Patients often remember how a doctor explained their illness, addressed their fears, and responded to their questions.
- **Avoiding the Case-Number Mindset:** Seeing patients merely as diagnoses or hospital cases can create emotional distance and weaken the doctor–patient relationship.
- **Understanding the Patient's Perspective:** Recognising family responsibilities, financial concerns, and uncertain futures helps doctors understand the broader impact of illness.
- **Competence and Compassion Go Together:** Evidence-based medicine and sound clinical judgment must be complemented by empathy, ethical practice, and respect.
- **Honesty With Empathy:** Doctors should communicate with honesty, offer realistic hope, and provide reassurance without making false promises.
- **Technology Cannot Replace Humanity:** AI, robotic surgery, and advanced diagnostics can improve healthcare, but human connection remains essential to compassionate treatment.

A REFLECTION FOR MEDICAL STUDENTS THE OCEAN OF MEDICINE LEARNING WITHOUT SHORES



-Dr. Kartikeyan Perumal,
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Bharath Medical College & Hospital

To enter medical school is to stand at the edge of an ocean. The first view is inspiring, but also humbling: the horizon is immense, the depths are largely unseen, and no single journey can reveal everything the water contains. This vastness is not a reason for fear. It is an invitation to learn with discipline, curiosity and respect.

The Shoreline: Building the Foundations:

Anatomy, physiology, biochemistry, *pathology*, pharmacology and microbiology may initially seem like separate inlets, each with its own language and examinations. In clinical practice, their boundaries disappear. Breathlessness may involve the lungs, heart, blood, metabolism, emotion, environment and access to care. The basic sciences are therefore not isolated hurdles; they are the charts and instruments that later allow safe navigation.

A lecture or textbook contains only a cupful of this ocean. Facts matter, but medicine cannot be mastered by collecting facts alone. Knowledge becomes useful when it is connected, questioned and applied to a living patient. Progress comes through repeatable strokes: **attentive learning**, **active recall**, bedside observation, **clinical reasoning** and an honest return to weak areas. Consistency carries a student farther than occasional periods of panic.

Leaving the Shoreline:

The move from lecture hall to bedside changes the learner's task. Knowledge must now be used within uncertainty, where symptoms may be incomplete and several explanations remain possible.

This is where careful listening, examination and clinical reasoning begin to turn information into judgement.

"The aim of medical education is not to know the whole ocean. It is to become a safe, curious and dependable navigator within it."

Currents, Crew and Compass:

Evidence is always moving. **Guidelines** change, treatments improve and once-promising interventions are abandoned. A durable learner asks a clear question, examines the quality of evidence, judges whether it applies to the patient and changes course when better information appears. **Scientific humility** is essential: saying "I do not yet know" is responsible when it is followed by a plan to find out.

No vessel crosses difficult waters through one person alone.

Nurses, pharmacists, technicians, therapists, researchers, patients and families form the clinical crew. Respectful teamwork prevents error and improves continuity. The compass is professional character—ethics, empathy, honesty and respect for dignity. A technically correct decision can still be poor care if consent is superficial, confidentiality is neglected or the patient's priorities are unheard.



Every career meets storms: an examination failure, a missed clue, unexpected deterioration or a difficult conversation. The mature response is honest review rather than denial or permanent self-condemnation. Ask what happened, which signals were missed, whether knowledge, communication, fatigue or system design contributed, and what must change before the next patient.

Storms and the Receding Horizon:

Graduation is not the opposite shore. It is the point at which supervised learning becomes a lifelong professional duty. New evidence, new technology and new social needs will continually redraw the map. Patients do not need doctors who claim to know everything. They need doctors who know enough to act safely, care enough to listen and remain humble enough to keep learning.

The horizon of medicine continually recedes. That is not a failure of education; it is the reason medical education must continue for life.

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QUICK RECAP:

- **Medicine as an Ocean:** Medical education is a vast, lifelong journey that requires curiosity, discipline, humility, and respect for the limits of knowledge.
- **Integrating Basic Sciences:** Anatomy, physiology, biochemistry, pathology, pharmacology, and microbiology work together to explain complex clinical presentations.
- **Beyond Memorisation:** Medical knowledge becomes meaningful when facts are connected, questioned, and applied to real patients.
- **Consistency Over Panic:** Active recall, regular revision, bedside observation, and honest assessment of weak areas support sustainable learning.
- **From Classroom to Bedside:** Clinical practice requires applying knowledge in uncertain situations where symptoms may be incomplete and multiple diagnoses are possible.
- **Clinical Reasoning Matters:** Careful history-taking, physical examination, and systematic reasoning help transform information into sound clinical judgment.



THE FRAGILE MOMENT OF SUSPICION



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Institute, Kochi

The boy was eight years old when they first noticed the signs. A child who once corrected his teachers' math began struggling with simple words. He said the classroom lights hurt his eyes. He tripped while running and then stopped running altogether. At home in a coastal town in Kerala, his parents were told it was just a distraction, maybe attention deficit or stress. However, denial turned into fear when he had his first seizure.

An MRI showed something much worse than what they thought- symmetrical parieto-occipital white matter changes which were suggestive of inflammatory **demyelination**. A metabolic panel followed, which showed elevated very-long-chain fatty acids (**VLCFAs**). The neurologist spoke gently, almost cautiously: **X-linked adrenoleukodystrophy**.

It describes a **peroxisomal disorder** in medicine that is brought on by a mutation in the X chromosome's **ABCD1 gene**. This gene contributes to the synthesis of a transporter protein that transports VLCFAs into peroxisomes for degradation. When it malfunctions, VLCFAs build up in the central nervous system and adrenal cortex, resulting in progressive demyelination and **adrenal insufficiency**. Although the underlying process appears straightforward, the consequences are dire.

X-linked adrenoleukodystrophy (ALD) manifests in various phenotypes. The most severe type, childhood cerebral ALD, usually shows up between the ages of four and ten. The first signs are not very obvious: **poor school performance, changes in behaviour, problems with vision, and problems with coordination**.

Untreated progressive neuroinflammation can cause rapid cognitive decline, motor dysfunction, vision and hearing loss, and eventually a vegetative state over the course of months to a few years. Addisonian characteristics, including **hyperpigmentation, fatigue, and hypotension**, may precede or coexist with neurological manifestations, yet are often neglected.

The clinical disguise of ALD is what makes it so cruel. The initial presentation is very similar to attention deficit disorders, autism spectrum traits, learning disabilities, or mental health issues. In places where resources are limited, like rural and semi-urban India, people don't think about such rare metabolic leukodystrophies.

In the present, plasma **VLCFA assays, genetic sequencing**, and **serial neuroimaging** are some of the most advanced diagnostic tests. Most of these tests are only available in tertiary centers.

It is estimated that **1 in 15,000 to 1 in 20,000** male births worldwide are affected by ALD. Even though these figures are modest, they still indicate that thousands of people in a nation with more than a billion citizens are impacted. However, compared to infectious diseases or non-communicable disorders that require organised national programs, rare genetic conditions play a minor role in public health frameworks.

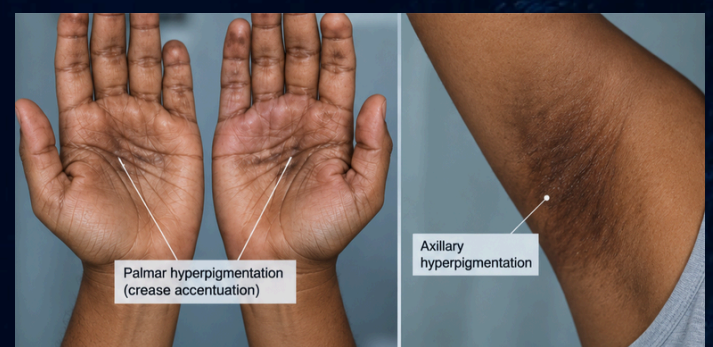


Fig 1. Clinical hyperpigmentation due to adrenal insufficiency in X-linked adrenoleukodystrophy.

The tragedy of ALD is both temporal and biological. Between radiological signs of early demyelination and advanced, irreversible white matter degeneration, there is a narrow window of opportunity for treatment. It has been shown that hematopoietic stem cell transplantation (**HSCT**) slows the advancement of cerebral disease, particularly when it is performed in its early stages, which are marked by low Loes MRI scores. The idea is to replace microglial lineage cells that aren't working with donorderived cells that can help reduce *neuroinflammation*.

Gene therapy utilising lentiviral vectors to rectify the patient’s own hematopoietic stem cells has recently demonstrated encouraging results in clinical trials, providing optimism in the absence of matched donors. The available treatments require a lot of resources and are often sophisticated. Early referral, matched donor availability, specialised transplant facilities, and significant financial resources are all necessary for HSCT. Such infrastructure is mostly found in urban areas only.

For many families, the disease may have progressed past transplant eligibility by the time the diagnosis is verified and referral procedures are followed. On the other side, global precedents are instructive. Due to the efforts of impacted families, ALD has been included in regular newborn screening programs in several US states since 2013.

Longitudinal MRI surveillance can detect cerebral involvement before the onset of symptoms,thanks to early biochemical detection. Research has shown that children who receive early diagnosis and treatment have much better results.

This model emphasises a key idea: the prognosis in ALD is directly correlated with the promptness of suspicion. Inheritance adds another dimension to the disease.

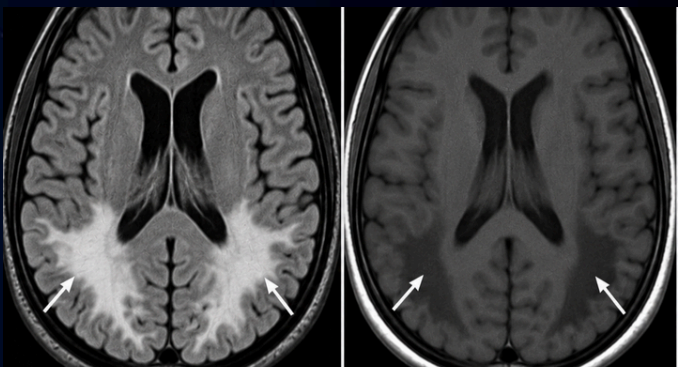


Fig 2. Contrast-enhanced MRI showing active demyelinating lesions in cerebral X-linked ALD

ALD is an X-linked condition which predominantly affects males, while females can be carriers with no symptoms or a milder myelopathy. Finding one affected child can lead to identifying other at-risk individuals in the family line. Due to the genetic predisposition, genetic counselling becomes important to screen siblings who might need early monitoring and interventions.

The **National Policy for Rare Diseases (2021)** in India highlights the necessity of facilities and funding for expensive treatments. However, the implementation of the act is not effective. Healthcare systems are challenged by rare diseases not because they are common but rather because they necessitate longterm planning, coordination, and accuracy that goes beyond episodic care. Adrenoleukodystrophy tests the clinician’s attention. The MRI pattern, unexplained adrenal insufficiency, and regression in a previously normal child each provide a clue. But clues need to be recognised. Recognition truly relies on suspicion.

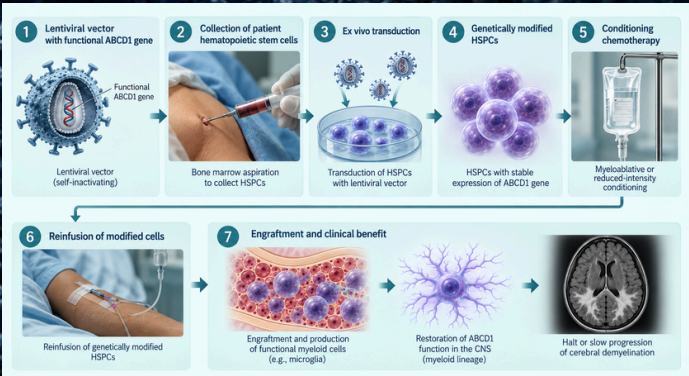


Fig 3. Schematic representation of lentiviral gene therapy targeting the ABCD1 mutation in X-linked ALD

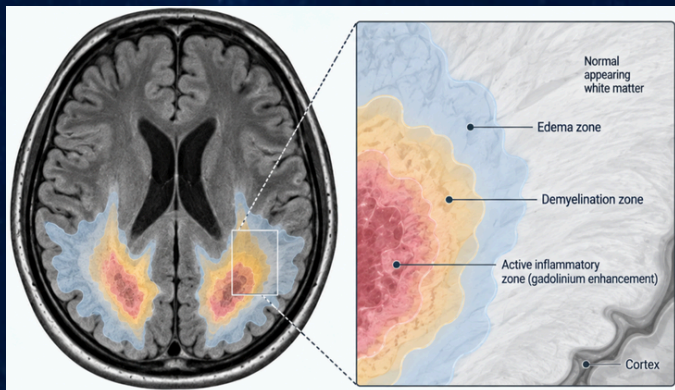


Fig 4. Schematic showing pathological zones in cerebral X-linked adrenoleukodystrophy.

For the boy's family, the diagnosis came towards the end, leaving them with a narrow therapeutic range. Their experience explains that diseases in a large country like ours may be rare on their own, but together they are significant. Early detection doesn't always guarantee a cure, but late detection almost always leads to loss.

Each consultation is an important moment where the clinician can either take a moment to ask questions or reassure and dismiss. Outcomes largely depend on that precise, sensitive time when standard explanations seem plausible, but something feels off. X-linked adrenoleukodystrophy comes as a reminder to us clinicians that paying close attention to details is just as vital to the progress of medicine as technology.

The chance for intervention arises in that ***fragile moment of suspicion*** when missing a milestone acts as a warning rather than an excuse. For children, being vigilant is more than having clinical skills; it is the difference between progression and preservation.

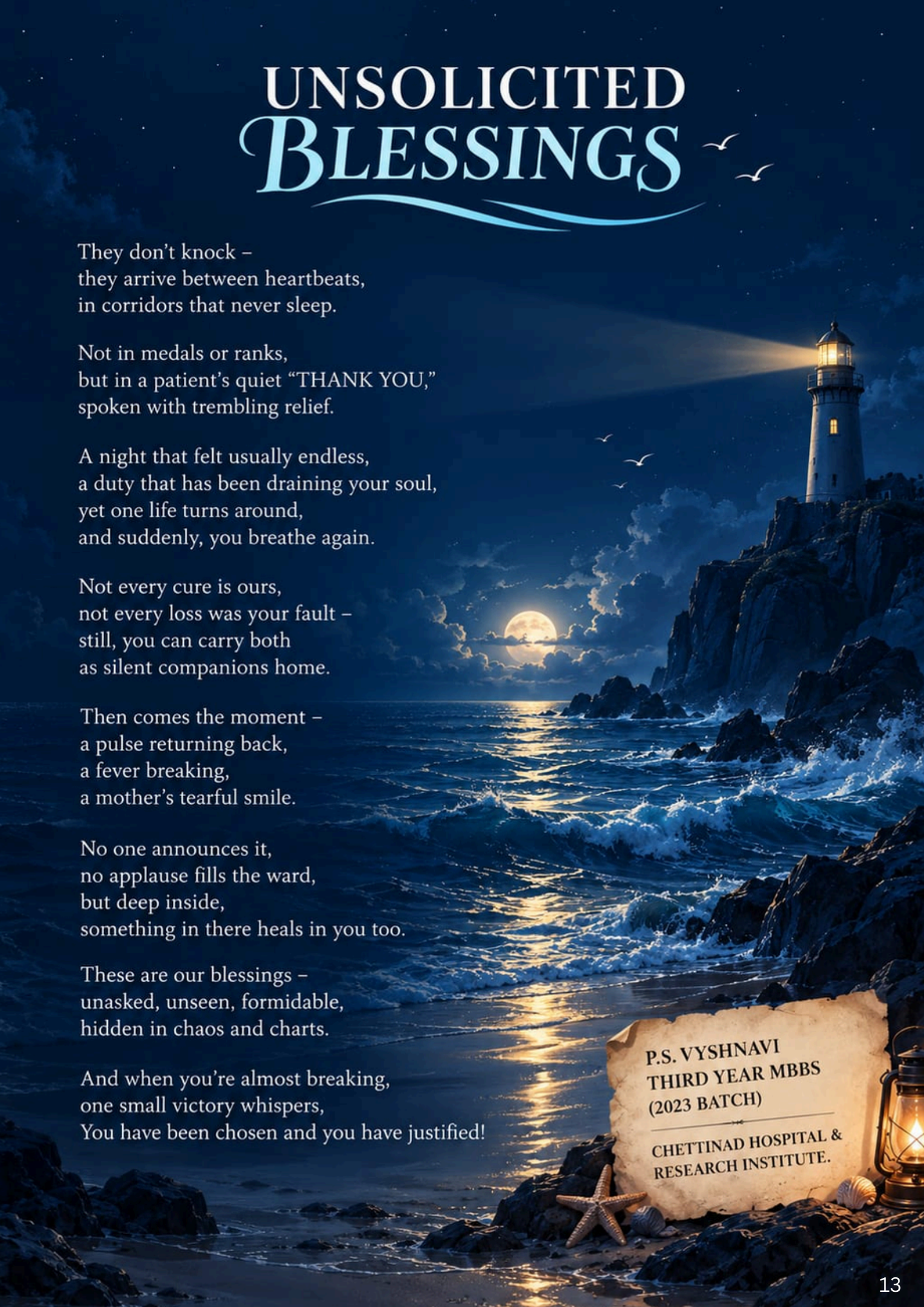
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QUICK RECAP:

- Recognise early: School difficulties, behavioural changes, visual disturbances, and seizures may be the first signs of childhood cerebral ALD.
- Investigate promptly: Brain MRI, plasma very-long-chain fatty acids (VLCFAs), and genetic testing help establish the diagnosis.
- Act within the therapeutic window: Early referral for haematopoietic stem cell transplantation (HSCT) or gene therapy may slow disease progression in eligible patients.
- Screen the family: Genetic counselling and testing can identify at-risk siblings before symptoms develop.
- Bridge the healthcare gap: Greater awareness, newborn screening, and access to specialised care are essential for timely intervention.

UNSOLICITED BLESSINGS



They don't knock –
they arrive between heartbeats,
in corridors that never sleep.

Not in medals or ranks,
but in a patient's quiet "THANK YOU,"
spoken with trembling relief.

A night that felt usually endless,
a duty that has been draining your soul,
yet one life turns around,
and suddenly, you breathe again.

Not every cure is ours,
not every loss was your fault –
still, you can carry both
as silent companions home.

Then comes the moment –
a pulse returning back,
a fever breaking,
a mother's tearful smile.

No one announces it,
no applause fills the ward,
but deep inside,
something in there heals in you too.

These are our blessings –
unasked, unseen, formidable,
hidden in chaos and charts.

And when you're almost breaking,
one small victory whispers,
You have been chosen and you have justified!

P.S. VYSHNAVI
THIRD YEAR MBBS
(2023 BATCH)

CHETTINAD HOSPITAL &
RESEARCH INSTITUTE.

ADVANCING HEALTHCARE THROUGH ARTIFICIAL INTELLIGENCE WHILE SAFEGUARDING MENTAL WELLBEING IN MEDICAL EDUCATION



-Rishika E, 2022 Batch
Shri Sathya Sai Medical College and Research
Institute

Healthcare is entering a transformative era driven by **artificial intelligence (AI)**, digital ecosystems, and data driven decision making. These advancements are redefining diagnostics, clinical workflows, and public health surveillance. At the same time, medical education is facing growing concern regarding student mental health, resilience, and professional sustainability. The future of healthcare depends not only on technological capability but also on the wellbeing of the workforce responsible for implementing and governing these innovations.

Digital transformation has emerged as a global priority. The World Health Organization recognizes **digital health** as a foundational component of resilient health systems. In India, **The Ayushman Bharat Digital Mission (ABDM)**, implemented under the National Health Authority, aims to establish interoperable digital infrastructure to support secure health data exchange. Such initiatives provide the structural backbone necessary for AI integration into routine healthcare delivery. Decision support systems analyze extensive datasets to assist physicians in evidence based clinical decision making.

Artificial intelligence has demonstrated measurable impact across multiple clinical domains. AI assisted radiology enhances diagnostic sensitivity in identifying pulmonary lesions, **intracranial** pathologies, and malignancies. Predictive algorithms in intensive care units enable early recognition of sepsis and clinical deterioration.

These technologies are designed to augment, not replace, clinical expertise, improving precision while preserving professional judgment

However, the sustainability of technological advancement is closely tied to the mental well-being of medical trainees. Medical students often face high academic demands, emotional exposure to clinical environments, and performance pressures. Studies consistently indicate elevated levels of stress, anxiety, and burnout among trainees. Without structured support systems, these stressors may affect long term professional engagement, empathy, and workforce stability.

Technological innovation can contribute positively in this domain as well. AI enabled adaptive learning platforms personalize study pathways, identify knowledge gaps, and enhance educational efficiency. **Digital mental health tools** including confidential screening platforms and tele counseling services improve accessibility to psychological support.

Predictive analytics, when ethically implemented, may help institutions identify at risk students through anonymized patterns, enabling timely intervention while respecting privacy and autonomy.



In this evolving landscape, technology oriented medical forums hold strategic relevance. A dedicated Tech Wing within a medical organization can serve as a catalyst for responsible innovation. By facilitating AI literacy programs, organizing interdisciplinary workshops, and promoting discussions on ethical data governance, the Tech Wing strengthens institutional readiness for digital transformation. Simultaneously, it can advocate for technology enabled mental health initiatives within medical education, ensuring that innovation aligns with professional sustainability.

Through structured collaboration between clinicians, technologists, and educators, such a platform can foster a balanced model of progress where efficiency does not compromise empathy.

The future of healthcare will be defined not merely by algorithmic sophistication but by the capacity of institutions to integrate innovation with ethical stewardship and psychological safety. Artificial intelligence has the potential to elevate diagnostic precision, streamline operations, and expand accessibility. Its full impact, however, will be realized only within systems that prioritize the mental well-being of medical professionals from the earliest stages of training.

Sustainable advancement lies at the intersection of computational intelligence and human resilience. Although technological advancement and psychological well-being may appear distinct, sustainable healthcare innovation depends on integrating both. Institutions that cultivate both will not only adapt to the evolving healthcare landscape but actively shape its future with responsibility, foresight, and leadership.

In conclusion, Artificial intelligence is reshaping the future of healthcare, but innovation must remain anchored in human values.

The strength of any healthcare system lies not only in its technological sophistication, but in the resilience and well-being of its professionals. By integrating digital advancement with ethical governance and sustained support for medical trainees, institutions can lead a future that is intelligent, equitable, and enduring.

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MEDICAL EDUCATION: THE FOUNDATION OF QUALITY HEALTHCARE



-Tharun Ganesh, 2024 Batch
Tagore Medical College & Hospital

Medical education is one of the most important pillars of healthcare, as it prepares future doctors and healthcare professionals to care for patients and improve community health. It is not simply about memorizing textbooks or passing examinations; rather, it is a continuous process of learning, practicing, and developing the knowledge and skills required to provide effective healthcare. In today's rapidly changing world, medical education has become more important than ever in preparing healthcare professionals to meet modern challenges.

The process of medical education usually begins with **learning** the basic sciences, including anatomy, physiology, biochemistry, and pathology. These subjects help students understand how the human body functions and how diseases affect it. However, medical education extends far beyond classroom learning. **Clinical training** allows students to interact with patients, observe diseases firsthand, and gradually develop practical skills needed in real healthcare settings.

Modern medical education focuses not only on academic knowledge but also on building essential professional qualities. **Communication** skills, empathy, teamwork, **ethical practice**, and **patient-centered care** are now considered equally important.

Healthcare professionals must be able to communicate effectively with patients and families while providing treatment with compassion and professionalism.

Technological advancements have transformed the way medical education is delivered. Online learning platforms, virtual simulations, digital resources, and advanced training models have made learning more interactive and accessible. **Simulation-based learning** allows students to practice clinical procedures in controlled environments, helping them build confidence before working with actual patients.

Research and evidence-based practice are also important components of medical training. Students are encouraged to think critically, analyze scientific information, and understand how research contributes to better healthcare outcomes. These skills help future healthcare professionals stay updated and make informed decisions in clinical practice.

Despite its importance, medical education is often challenging. Students face heavy academic workloads, long study hours, **stressful** examinations, and increasing competition. These challenges can sometimes affect mental well-being, making it important for institutions to promote healthier learning environments and provide adequate support systems.



Medical learning does not end after graduation. Since medical knowledge constantly evolves, healthcare professionals must continue learning throughout their careers. **Continuous education** ensures that doctors remain updated with new treatments, technologies, and healthcare practices.

In conclusion, medical education is much more than a pathway to becoming a doctor. It is a lifelong journey that shapes knowledgeable, skilled, and compassionate healthcare professionals. Strong medical education ultimately contributes to better healthcare systems and improved patient outcomes, benefiting society as a whole.

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QUICK RECAP:

- Importance: Prepares future healthcare professionals to treat patients and improve community health.
- Basic Sciences: Anatomy, physiology, biochemistry and pathology build the foundation of medical knowledge.
- Clinical Training: Patient interaction and hands-on experience develop practical clinical skills.
- Professional Qualities: Communication, empathy, teamwork, ethics and patient-centred care are essential.
- Technology: Online platforms, digital resources and simulations make learning more interactive and accessible.
- Research: Critical thinking and evidence-based practice support informed clinical decisions.
- Challenges: Heavy workloads, long study hours, stressful examinations and competition affect students.

THE INTELLIGENCE WE TRAIN WITH: ARTIFICIAL INTELLIGENCE, MEDICAL EDUCATION & THE FUTURE OF MEDICOS



-Yashwantha Elumalai, 2021 Batch
Sri Ramachandra Medical College & Research
Institute-Chennai

"Medicine has always been about knowledge, judgement, and compassion. But what happens when knowledge begins to speak back to us through a machine?"

The AI Wave Entering Medical Education:

A new wave is quietly reshaping the way future doctors learn, think, and practice medicine inside lecture halls, libraries, clinics, and hostel rooms. Medical students are no longer learning only from textbooks, seniors, and professors.

They are also learning from search engines, medical apps, **AI chatbots**, automated note-makers, **image-recognition tools**, and clinical decision-support systems.

Artificial Intelligence is no longer a distant technological concept reserved for engineers and computer scientists. It has entered medicine; through radiology, pathology, **ophthalmology**, research writing, drug discovery, patient communication, and now, medical education itself. AI can summarise a topic in seconds, generate differential diagnoses, explain mechanisms, simplify research papers, create flashcards, and even simulate patient conversations.

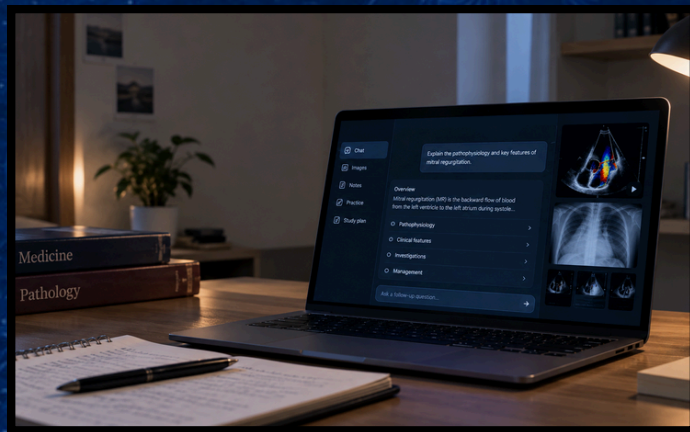
But this raises an uncomfortable question: Are medical students being trained to use AI safely, ethically, and intelligently or are they being left to experiment with powerful tools without guidance?

What Research Reveals About AI in Medical Education?:

A 2023 systematic review in **PLOS Digital Health** found that medical education systems have been slow to adapt to AI, with limited formal AI-specific teaching in undergraduate medical curricula. The review identified **six major themes** needed for AI education: *ethics, theory and application, communication, collaboration, quality improvement, and perception/attitude.*

A **2024 systematic review and meta-analysis in BMC Medical Education**, involving 22 studies and 8,491 participants, found that healthcare students generally had a positive attitude towards AI, but their knowledge remained only moderate. The pooled proportion for AI knowledge was **44%**, while the pooled proportion for favourable attitude was **65%**. This gap matters: students are willing to accept AI, but many are not yet adequately trained to understand its limitations.

In medicine, large language models have shown impressive ability.



A landmark *Nature* study introduced **MultiMedQA** and showed that medical **LLMs** could perform well on several medical question-answering datasets, including USMLE-style questions. However, the same study clearly warned that human evaluation still revealed gaps in factuality, reasoning, harm, and bias. That is the paradox of AI in medicine:

- It can be brilliant.
- It can be fast.
- It can be useful.

And yet, it can still be wrong.

Why Medical Students Need AI Literacy the Most?:

For a medical student, AI is tempting because it solves real problems. The syllabus is vast. Time is limited. Exams are frequent. Clinical postings demand preparation. Research projects require literature review, statistics, writing, and referencing. In that pressure, AI feels like relief.

A student struggling with pharmacology can ask AI to simplify drug mechanisms. A student preparing for case presentation can ask for differentials. A student writing an abstract can ask for structure. A student confused by a research paper can ask for a summary.

But without AI literacy, the student may not know when the answer is fabricated, outdated, biased, oversimplified, or clinically unsafe. AI can generate confident explanations even when the content is incorrect.



It can produce references that look real but do not exist. It can miss local guidelines. It can fail to understand patient context. It can sound like a teacher, while behaving like an unverified assistant.

This is why AI should not replace medical reasoning. It should strengthen it.

Why This Matters for Students, Patients, and the Profession?:

The rise of AI in medical education is not just a student issue. It affects the entire healthcare system.

1. **For the student:** AI can improve learning, revision, research productivity, and confidence. But misuse can weaken independent thinking, clinical reasoning, and academic integrity.
2. **For the patient:** A future doctor who blindly trusts AI may carry that habit into clinical practice. In medicine, a wrong answer is not just a mistake; it can become harm.
3. **For the profession:** The doctor of the future will not be someone who avoids AI. It will be someone who knows how to question it, verify it, and use it responsibly.

Topol described the future of medicine as a convergence of human and artificial intelligence, not a replacement of the physician by the machine. The real promise of AI is not to remove the doctor, but to give doctors more time, better tools, and stronger decision support.

The Problem Is Not AI. The Problem Is Unguided AI:

AI is already being used by students. The question is whether institutions will acknowledge it and teach it properly or ignore it until misuse becomes normal. Medical colleges must move from fear to framework. Banning AI completely is unrealistic. Blindly encouraging it is unsafe. The solution lies in structured AI education.

Students should be taught:

- How AI works at a basic level
- How to verify AI-generated medical content
- How to identify hallucinated references
- How to protect patient privacy
- How to use AI ethically in assignments and research
- How to understand bias in datasets
- How to treat AI as an assistant, not an authority

Foundation models and generalist medical AI systems are expected to handle multiple types of data including imaging, electronic health records, laboratory results, genomics, and medical text, but their validation and regulation will remain major challenges.

The Way Forward: Teaching AI Before It Teaches Us:

This is not a future problem. It is already here.

1. AI Literacy in MBBS Curriculum: AI should be introduced as a structured competency, not as an optional curiosity. Students do not need to become coders, but they must become safe users of AI.

2. Ethical AI Use Guidelines for Students: Colleges must clearly define where AI can be used: learning, brainstorming, summarising, language refinement, and research support. They must also define where it cannot be used: fabrication of data, plagiarism, unverified clinical decision-making, and fake references.

3. AI-Based Research Training: Students should be taught how to use AI for literature search, reference screening, manuscript editing, and statistical planning - while maintaining academic honesty.

4. Faculty Training: Faculty members also need training. A teacher who does not understand AI cannot guide students in using it responsibly.

5. Human Oversight Always: Every AI-generated medical answer must be checked against textbooks, guidelines, peer-reviewed papers, and clinical judgement. In medicine, AI should assist the doctor's mind, not replace it.

A Message to Every Future Doctor in the Age of AI:

If you are already using AI to study, you are not alone. But use it wisely.

- Ask AI to explain.
- Ask it to simplify.
- Ask it to quiz you.
- Ask it to help you organise your thoughts.

But do not let it think for you.

Because the future doctor will not be judged by how quickly they can get an answer. The future doctor will be judged by whether they can recognise which answer is safe, ethical, evidence-based, and humane. AI may become part of the stethoscope of tomorrow. But the heart listening through it must still be human.

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TELECARDIOLOGY: EXPANDING ACCESS TO HEALTH CARE



-Tanishka M., 2023 Batch
ACS Medical College & Hospital

Cardiovascular diseases (CVDs) remain the leading cause of death around the world, accounting to almost **18 million deaths** annually. Despite the remarkable advances in the field of cardiology, access to a specialized cardiac care center in remote and rural regions remains uneven and is a major point of concern. To counter that concern, **telecardiology** has emerged and has proven to become a transformative solution because of its function as an application of **telecommunication** technology in cardiovascular care. This technology breaks the bottleneck that geographical barriers cause by bringing expert cardiac services closer to the patients.

Telecardiology includes a broad range of services that include remote consultations, telemonitoring of cardiac parameters, **virtual follow up** visits and the use of wearable implantable devices for continuous patient monitoring. This technology helps the patients with timely diagnosis and treatment by facilitating communication between the healthcare providers and patients. This ensures long term management of cardiovascular conditions in patients who would not have had access to basic treatment otherwise.

Many patients residing in rural areas face challenges like shortage of specialists and long travels to reach to a primary care center for basic medical intervention, and this results in gross negligence towards the individual's health. Through teleconsultations and remote ECG interpretations, patients can receive expert opinions without having to travel.

This is particularly advantageous in cases of acute cardiac emergencies where rapid diagnosis and treatment significantly influence the patient's outcome.

Evidence supporting telecardiology continues to grow. A systematic review by Mohammadzadeh and colleagues found that recent telecardiology interventions have contributed to earlier treatment with reduction in mortality rates, lower healthcare costs and better patient compliance. This review highlighted telemonitoring and teleconsultation as the most commonly utilized telecardiology services.

Recent technological advancements like the wearable devices and smartphones based application that can monitor real time heart rate, heart *rhythm* abnormalities and other cardiovascular parameters have further expanded the scope of telecardiology. These advancements enable affordable and continuous monitoring that traditional healthcare settings do not while allowing clinicians to identify concerning trends before any serious complication can develop. For patients with chronic cardiovascular conditions, this **remote monitoring** can help in timely interventions and care.



Following COVID-19 pandemic, when in person consultations were limited, telehealth was adopted as a way to consult physicians without having to go to a healthcare center. Telecardiology also gained prominence, providing virtual cardiovascular care, especially in patients with hypertension, coronary artery disease and arrhythmias. **The American Heart Association** has emphasized that telehealth maintains patients centered care by improving accessibility to healthcare particularly for the rural populations and the socioeconomically disadvantaged communities.

Despite all the benefits telecardiology has to offer, there are a few challenges that limits its use. Improper network connectivity, inadequate technology, concerns regarding reimbursements and limited digital literacy are few factors that hinder in the widespread implementation of telecardiology. With increased amounts of sensitive health information shared electronically, ensuring patient privacy needs stricter technological advancements. Addressing and working on these barriers will help achieve access to equitable telehealth and telecardiology services.

Looking ahead, the integration of artificial intelligence to the already present wearable technologies and mobile phone monitoring applications can further strengthen telecardiology as predictive algorithms can assist in identifying any signs of health deteriorations, enable proactive interventions which can reduce avoidable hospitalisations. With digital health technologies constantly improving, telecardiology will become an integral component in the modern cardiovascular care.

In conclusion, telecardiology has become a major advancement in the delivery of accessible heart care by overcoming geographical barriers and providing specialist care. Digital innovations and technological advancements in healthcare ensures that expert cardiac care reaches the patients regardless of where the live.

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THE OCEAN: THE LIFELINE OF OUR PLANET



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The ocean is one of the most valuable and fascinating parts of our planet. Covering more than **seventy percent** of Earth's surface, oceans play a major role in supporting life, regulating climate, and maintaining ecological balance. Beyond their beauty and vastness, oceans are essential for the survival and well-being of humans, animals, and the environment.

One of the most important roles of the ocean is **climate regulation**. Oceans absorb large amounts of heat and carbon dioxide from the atmosphere, helping maintain stable temperatures across the globe. Ocean currents also influence weather patterns and distribute heat, making many regions suitable for life. Without oceans, Earth's climate would be far more extreme and unpredictable.

Oceans are home to millions of species, from tiny microorganisms to enormous marine animals. These ecosystems support **biodiversity** and provide food and livelihood for countless people worldwide. Fishing remains an important source of nutrition and income for many communities, especially those living near coastal areas. In addition, marine organisms have contributed significantly to scientific and medical discoveries. The economic importance of oceans is equally significant. Shipping, tourism, fisheries, and renewable energy industries rely heavily on ocean resources.

International trade depends greatly on maritime transportation, making oceans crucial for global economic growth and connectivity. Despite their importance, oceans are facing serious threats today. Pollution, plastic waste, overfishing, and climate change are damaging marine ecosystems at an alarming rate.



Rising temperatures and habitat destruction are affecting countless marine species and disturbing the natural balance of ocean **ecosystems**.

Protecting the ocean is a shared responsibility. Governments, organizations, and individuals must work together to reduce pollution, conserve marine life, and encourage sustainable practices. Small actions, such as reducing plastic usage and supporting environmental initiatives, can collectively make a meaningful difference.

In conclusion, oceans are far more than vast bodies of water. They are the foundation of life on Earth. Preserving and protecting them is essential for ensuring a healthier and more **sustainable** future for generations to come.

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Whispers of a mutant gene

The Lament of

Phenylketonuria



I live within you, yet you never knew,
A tiny flaw, but the cost is true.
You read my name in **books** so wide,
But have you heard my side?

You list my symptoms, write them down,
A **musty smell**, fair skin, a frown.
Seizures strike, the mind delays,
A life of limits, in a **cognitive maze**.

A **diet strict**, yet **hope remains**,
To keep me quiet, to break my chains.
Phenylalanine free, yet protein's there,
Tyrosine given with utmost care.

Chromatography maps my trail,
An amino acid gone pale.
You study me, define me well,
But hear my story, the truth I tell.

I am the step that couldn't be made,
Phenylalanine builds—neurons fade.
My pathway blocked, **tyrosine** lost,
A simple error, but at what cost?

A urine test, my secret's shown,
Ferric chloride turns deep stone.
A prick of blood, a newborn's test,
A diagnosis—**early is best**.
Guthrie's card, a guiding light,
To stop my grip before it's tight.

Tetrahydrobiopterin, a beacon bright,
For some, a way to set things right.
Medical formulas, science refined,
A future where I'm redefined.

I am not evil, not by choice,
I am just fate without a voice.
So next time in exams, when you see my name,
Know that to some, I'm more than a game.
I am a **child's laughter at stake**,
A **future saved**—the choice you make.

by **NITISH KUMAR G.**

FINAL YEAR MBBS (2021 BATCH)

SREE MOOKAMBIKA INSTITUTE OF MEDICAL SCIENCES.

RESEARCH



1. Why Does Research Matter for an Undergraduate Medical Student?

Research is not only for scientists or postgraduate students; it is a way of thinking. For undergraduate medical students, it teaches three key habits:

- Asking questions
- Thinking critically
- Making evidence-based decisions

Research helps students become better clinicians by moving from “I think” to “I know why.”

"A doctor who only memorizes becomes outdated. A doctor who questions and researches continues to grow."

It also improves communication, presentation, teamwork, scientific writing, confidence, patience, and discipline. Most importantly, it teaches humility by showing that learning in medicine never ends.

Undergraduate research is not just about publishing papers; it is about developing a scientific mindset and becoming a thoughtful healthcare professional.

2. What is Your Advice for Students Who Feel “Not Ready” to Do Research?

Many students feel they lack knowledge, intelligence, or confidence to begin research. But nobody starts fully ready. Research is learned by doing.

"You do not learn swimming by reading about water. You learn by entering the water slowly."

Start small—join a faculty project, help collect data, learn literature searching, read articles, or present in a journal club. These are all forms of research training.

Do not compare yourself with others. Research is not a competition of IQ but a journey of curiosity and consistency.

Failure is normal. Rejected abstracts, poor results, delayed approvals, and statistical confusion are part of the process.

"A failed study can still create a successful researcher."

Be curious, patient, willing to learn, and unafraid to ask questions. Confidence comes after involvement, not before it.

3. What Are the Most Common Reasons Student Research Fails?

Student research usually fails not because of lack of intelligence, but due to poor planning, consistency, and communication.

Common reasons include:

1. Choosing a topic only for completion rather than genuine interest.
2. Poor time management and last-minute work.
3. Fear of asking doubts, allowing small issues to become major problems.
4. Irregular communication with mentors.
5. Ignoring research fundamentals such as objectives, sample size, questionnaire quality, ethical approval, and accurate data entry.
6. Expecting perfection instead of accepting revisions and setbacks.

As I often say:

"Good research is less about brilliance and more about consistency, curiosity, and commitment."

Most importantly, do not aim only to publish a paper. Aim to become someone who thinks scientifically, serves ethically, and continues learning throughout life.

The Art of Abstract Writing

Why Your Abstract Is Everything ?

Before a judge reads your full work, before a panel decides who gets a podium slot and before anyone in that auditorium knows your name, there is a crucial step and that is reviewing of your abstract. In the current competitive UG conferences, your abstract is your first impression and your only chance to make someone stop and say this one is worth attention.

THE GOLDEN STRUCTURE

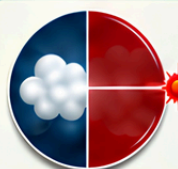
- | | | | |
|--|--|---|---|
| 1 BACKGROUND
 <ul style="list-style-type: none"> • OPEN WITH: "WHY DOES THIS TOPIC MATTER?" • PROCEED TO: "WHAT GAP IN KNOWLEDGE OR PRACTICE MAKES YOUR WORK RELEVANT?" • KEEP SMALL AND CRISP: AVOID OVER-EXPLAINING (JUDGES ARE CLINICIANS) | 2 OBJECTIVE
 <ul style="list-style-type: none"> • STATE CLEARLY WHAT YOU SET OUT TO DO OR FIND OUT. • THIS SINGLE SENTENCE ANCHORS ALL FOLLOWING WORK. • A VAGUE OBJECTIVE SIGNALS VAGUE WORK. | 3 FINDINGS
 <ul style="list-style-type: none"> • THE HEART OF YOUR ABSTRACT. • BE SPECIFIC: INCLUDE ACTUAL NUMBERS, CLEAR OBSERVATIONS. • HONEST RESULTS CARRY MORE WEIGHT. | 4 CONCLUSION
 <ul style="list-style-type: none"> • "WHAT SHOULD A CLINICIAN, RESEARCHER, OR STUDENT TAKE AWAY FROM IT?" |
|--|--|---|---|



A FINAL CHECKLIST

- | | | |
|---|---|--|
| 1
 DOES YOUR ABSTRACT MAKE COMPLETE SENSE WITHOUT ANY SUPPORTING MATERIAL?  | 2
 IS EVERY CLAIM BACKED BY FINDINGS YOU ACTUALLY HAVE?  | 3
 WORD LIMIT: 250 / CHAR. LIMIT: 2000
HAVE YOU STAYED WITHIN THE WORD AND CHARACTER LIMITS?  |
| 4
 IS YOUR TITLE SPECIFIC AND INFORMATIVE?  | 5
 HAVE BOTH A PEER AND A SENIOR REVIEWED IT?  | 6
 HAVE YOU READ IT ALOUD TO CATCH CLUMSY PHRASING?  |

DOs and DON'Ts — Where Students Win or Lose



1. Be specific:

✗ WEAK

"The patient had abnormal blood results."

✓ STRONG

"Serum sodium was 118 mEq/L, consistent with severe hyponatraemia."



2. Use active voice:

✓ "We identified three key risk factors"
 ✓ Active
 ✓ Confidence

✗ "Three key risk factors were identified"
 ✗ Passive
 ✗ Vague



3. Respect the word limit:

- EXCEEDING IT IS AN AUTOMATIC RED FLAG
- SIGNALS POOR EDITING AND DISCIPLINE
- LIMIT: 250, SUBMIT 248, NOT 254

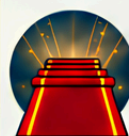
248
(PASS)

254
(FAIL)



4. Define abbreviations on first use:

- WRITE THE FULL TERM BEFORE ABBREVIATING
- PANELS SPAN MULTIPLE SPECIALTIES — WHAT IS OBVIOUS TO ONE MAY CONFUSE ANOTHER



5. Title is the first thing to be read:

- WEAK: "A Study on Fever in Young Patients"
- STRONG: "Atypical Presentations of Dengue Haemorrhagic Fever in Adolescents: A Cross-Sectional Study"



CASE DISCUSSION IN RESEARCH PAPERS



What is a Case Discussion and Why is it Important?

A case discussion is a section in a research paper where the author analyses the case and explains its clinical importance. Instead of simply repeating the patient's history, it focuses on interpreting the findings, comparing them with previously published studies, and explaining why the case is significant.



Importance of a Case Discussion

- Helps readers understand the practical relevance of the case
- Improves clinical reasoning
- Highlights important learning points for diagnosis and management
- Contributes to medical knowledge by discussing rare presentations, unusual complications, or challenges faced during treatment

HOW TO WRITE A CASE DISCUSSION

	1 Begin with a short summary of the important findings of the case.	Briefly highlight the patient's key clinical features, important investigations, diagnosis, and management outcome.
	2 Mention why the case is rare, unusual, or clinically interesting.	Explain the uniqueness of the case in terms of presentation, diagnosis, complications, or response to treatment.
	3 Compare the case with similar cases or studies from medical literature.	Discuss how your case is similar to or different from reported cases or studies and cite relevant references
	4 Discuss diagnostic or treatment challenges faced during management.	Describe any difficulties encountered in making the diagnosis or in choosing the appropriate treatment and how they were addressed.
	5 Explain the reasoning behind important clinical decisions.	Justify the selection of diagnostic tests, therapeutic interventions, and follow-up strategies based on clinical judgment and evidence.
	6 Highlight the key learning points and their relevance in clinical practice.	Summarize the major take-home messages and how they can help clinicians in similar scenarios
	7 End with a short conclusion about the importance of the case.	Conclude by reiterating the clinical significance of the case and its contribution to medical knowledge and patient care.



A well-written case discussion transforms a simple case report into a valuable learning resource that informs clinical practice and advances medical knowledge.

BEHIND THE RESEARCH: BETWEEN NUMBERS AND PEOPLE

When we go through an article, we see the clearly formatted, meticulously curated, final structured article. What we do not see are the sleepless nights, ethical debates, piled up data and confusing statistics which every aspiring researcher should understand.

1. From patient narrative to research question:

Research often begins in the clinic, where routine observations are transformed into meaningful research questions. Recurring patterns, unexplained outcomes, or unexpected adverse events generate hypotheses that guide the entire study. This step converts descriptive observations into quantifiable data.

A clear research question can be structured using the PICO framework:

P – Population,
I – Intervention/Exposure,
C – Comparison/Control,
O – Outcome(s)

The quality of the question can be assessed using the FINER criteria:

F – Feasible,
I – Interesting,
N – Novel,
E – Ethical,
R – Relevant

2. Existing literature gap and protocol framing

Once the research question is defined, an extensive literature review is conducted to identify previous studies, their methodologies, limitations, and existing knowledge gaps. Databases such

as PubMed, Scopus, Cochrane, MEDLINE, and Web of Science are commonly used. Research gains value by addressing gaps rather than merely repeating existing findings. The next step is protocol framing a detailed roadmap for the study.

A protocol includes the study rationale, objectives, methodology, and expected outcomes. The methodology outlines the study setting, design, duration, population, inclusion and exclusion criteria, sample size, sampling method, data collection procedures, variables, and data analysis plan. Beyond documenting methods, the protocol ensures transparency, reproducibility, and adherence to predefined plans, guiding researchers throughout the study.

3. Ethics and IRB: Guarding the Patients:

Ethics forms the foundation of all research decisions. Before a study begins, the protocol is reviewed by an Institutional Review Board (IRB) or Ethics Committee to ensure participant safety, minimize risks, protect vulnerable populations, and uphold ethical standards. The committee may recommend changes such as improved counselling, clearer consent forms, additional follow-up visits, or even modifications to the study design.

If significant safety concerns arise, the study may be halted. This process is not merely a formality but a dialogue between science and ethics, ensuring that research remains focused on the welfare and rights of real people, not just data.

4. Behind the Data: People in the Spreadsheet

Once IRB approval is obtained, researchers recruit participants, explain the study, obtain informed consent, and ensure participants understand their right to withdraw. Data collection may last days or years. Every row in a spreadsheet represents a person who trusted the research team. Dropouts, missing data, protocol deviations, and side effects must be documented and analyzed. Raw clinical data are coded into structured research variables, while randomization and blinding help ensure scientific rigor, ethical fairness, and minimal bias.

5. From p-Values to Real-World Practice

Once data collection is complete, statistical analyses are performed to determine the significance of findings. However, statistical significance ($p < 0.05$) does not always mean clinical importance. The manuscript is then written, revised, and submitted for publication. Behind every published article are months of ethical discussions, protocol refinements, and human interactions. High-quality studies report limitations, generalizability, and conflicts of interest. Through peer review and replication, findings contribute to systematic reviews, meta-analyses, and clinical guidelines that shape patient care.

6. For the Aspiring Researchers

- Research is not just the pursuit of publication, but of better questions.

- It requires curiosity, critical thinking, ethical integrity, collaboration, and resilience.
- Negative results, revisions, and setbacks are essential parts of scientific progress.
- Behind every published study lies persistence and a commitment to improving evidence-based medicine.

Whenever you read a PubMed-indexed article, remember the patients, researchers, and ethics committees behind it. Their collective efforts make research not only scientific, but deeply human.

GETTING STARTED IN RESEARCH

Student FAQ - 10 Questions Answered

Everything you were too afraid to ask - answered honestly

Q1. Do I need prior experience to start research?

No. Most supervisors expect curiosity, not a CV. What matters is a focused question, basic reading on your topic, and the willingness to show up consistently. Your first project does not have to be groundbreaking – it just has to be done.

Q2. How do I choose a research topic?

Start with a clinical question that bothered you on the ward – something you looked up and found the evidence unsatisfying. The best student projects are born from genuine curiosity, not what looks impressive. Ask: Is this answerable with the resources I have? If yes, pursue it.

Q3. How do I find a supervisor?

Identify a faculty member whose published work interests you. Read one of their recent papers, then approach them with a specific question – not a vague request to 'do research.' A short, purposeful email with your idea and availability is more effective than a long letter.

Q4. Do I need ethics approval?

Yes – almost always. Even for retrospective chart reviews, Institutional Ethics Committee (IEC) approval protects you and your institution. Apply early; approval takes 4–8 weeks on average. Visit your institution's research office to collect the forms and get started.

Q5. How do I write my first abstract?

Follow this structure: Background (one sentence – why it matters), Objective (one sentence – what you asked), Methods (two sentences – how you studied it), Results (what you found), Conclusion (what it means). Keep it under 300 words. Write the conclusion last, after your results are clear.

Q6. How do I get my work published?

Start with student or junior researcher journals (e.g., IJMS, JMSR) for your first submission. Follow the author guidelines precisely, write a clear cover letter, and expect 1–3 rounds of revision. Rejection is normal – most published papers were rejected at least once before acceptance.

FAQS FOR ETHICS AND METHODOLOGY

1. How do I choose a good research topic for my study?

Choose a topic that is interesting, relevant, feasible, and has enough available literature. A good research topic should solve a clinical or academic problem and be possible to complete within your available time and resources.

2. When is Institutional Ethics Committee (IEC) approval required for a research study?

IEC approval is required for most studies involving human participants, patient records, biological samples, surveys, or clinical interventions. Ethical clearance must be obtained before beginning data collection to ensure participant safety, confidentiality, and adherence to research guidelines.

3. Do I need ethics committee approval for a case report or questionnaire study?

Most questionnaire-based studies and research involving human participants require ethics committee approval. Some institutions may exempt single case reports, but obtaining ethical clearance or institutional permission is always safer and recommended.





MIND ARENA

1. A randomized controlled trial shows $RR = 0.75$ (95% CI: 0.52–1.08).

What is the most appropriate interpretation?

- A. Statistically significant protective effect
- B. No effect of intervention
- C. Possible benefit but not statistically significant
- D. Harmful intervention

2. If sensitivity = specificity, ROC curve will:

- A. Be diagonal line
- B. Touch top-left corner
- C. Be below diagonal
- D. Be vertical

3. Regression dilution bias occurs due to:

- A. Random error in exposure measurement
- B. Confounding
- C. Selection bias
- D. Observer bias

4. Which method BEST controls confounding at analysis stage?

- A. Randomization
- B. Matching
- C. Stratification
- D. Blinding

5. In a non-inferiority trial, the null hypothesis states:

- A. New treatment is superior
- B. New treatment is inferior beyond margin
- C. Treatments are equal
- D. No difference exists

JUNE PULSE: A LIFELINE WE CAN SHARE

June is the month to save lives by donating blood. Every donation aids patients in surgery, trauma, cancer treatment, obstetric emergencies, and chronic illnesses. This issue focuses on understanding, celebrating, and normalizing blood donation as a courageous act.

Q:What would you say to someone who is afraid to donate blood?

Dr.Rao: Most fears come from myths. The process is quick, uses sterile equipment, and your body replaces the volume in days. The discomfort is temporary; the impact is life-saving.

Why Blood Donation Matters Now

Hospitals need a steady blood supply year-round, not just during crises. However, blood banks often face shortages due to too few regular donors and hesitant or misinformed first-time donors. A healthy adult can donate safely at recommended intervals, with modern protocols ensuring donor and recipient safety.

Q:Who should consider becoming regular donors?

Dr.Rao: Young, healthy adults. If you have no major medical issues and meet basic criteria, you can support your community's blood supply. Regular donors ensure emergency needs are met.

Each donation is tested, divided into components like red cells, platelets, and plasma, helping multiple patients. Despite advanced medicine, blood cannot be manufactured—it must be donated.

Q: How can readers use June to begin?

Dr.Rao: Start with one act: register at a blood bank, join a camp, or pledge to donate on your birthday. Bring a friend or family member to build a culture of giving.

Mark the Day: 14 June – World Blood Donor Day

World Blood Donor Day on 14 June honors donors and reminds us that safe blood is essential. Let this June be when you go from “I should donate someday” to “I did donate—and will again.”

JUNE 2026 | BLOOD DONATION SPECIAL

JUNE PULSE: THE LIFELINE WE CAN SHARE

INTRODUCTION: JUNE, THE MONTH OF SAVING LIVES

ONE UNIT SAVED LIVES

Understanding, Celebrating, Normalizing blood donation as an everyday act of courage.

TRAUMA

SURGERY

CANCER TREATMENT

OBSTETRIC EMERGENCIES

CHRONIC ILLNESSES

RELIABLE YEAR-ROUND SUPPLY

SHORTAGE CHALLENGES

Few regular donors, hesitant first-timers

SAFE DONATION

Modern screening & collection protect donor & recipient

ONE DONATION HELPS MULTIPLE LIVES

RED CELLS PLATELETS PLASMA

CANNOT BE MANUFACTURED, it must be given

JUNE VOICES: A CONVERSATION WITH DR. ANANYA RAO

Q: Fearful of donating?

Dr. Rao: Myths vs. reality. Process is quick, sterile, Temporary discomfort, lasting impact.

Q: Who should consider becoming regular donors?

Dr. Rao: Young, healthy adults. No major medical issues, meet basic criteria (weight, hemoglobin). Become a dependable backbone.

Q: How to begin in June?

Dr. Rao: One intentional act. Register at blood bank. Join a camp. Pledge on your birthday. Encourage friend or family member.

MARK THE DAY: 14 JUNE – WORLD BLOOD DONOR DAY

A GLOBAL SALUTE TO VOLUNTARY DONORS NEED

SAFE BLOOD IS A UNIVERSAL NEED

SAFE BLOOD IS A UNIVERSAL NEED

SAFE BLOOD IS A UNIVERSAL NEED → “I should donate someday” → “I did donate—and I will again.”



STRIVING FOR EXCELLENCE IN EVERY STEP FORWARD

Research Presentations and Conference Achievements

At the prestigious CAHOCON 2026, abstracts from 18 of our team members were selected for presentation, making us immensely proud. The selected members were Mr. Arunagiri Gunasekar, Mr. Aakash J, Ms. Lalitha Marimuthu, Ms. Pavisree R, Mr. Keerththan P M, Ms. Pandimeena Shri S, Mr. Sriram Karthikeyan, Mr. Ganta Sai Surya Abhinav, Ms. S. V. Swetha, Ms. Manoranjini V, Ms. Mugiya Thavasi, Mr. Podili Yuva Varshith, Mr. Vigneshwaran V, Ms. Shobhiyaa Panneer, Ms. Harshavardhini B, Ms. Privarshini Jaganathan, Ms. Pooja JT, and Ms. Tanishka Muraleedharan. Adding to this achievement, Mr. Arunagiri Gunasekar secured First Runner-Up in the Dr. K. M. Cherian Award for Published Paper Presentation.

At MHECON 2026, held at NIMHANS in June, two abstracts from our team were accepted—one for oral presentation and another for poster presentation. Further elevating this achievement, our team secured First Prize in the Poster Presentation, marking a proud milestone in our research journey.

Taking our work to the international stage, two e-poster abstracts were accepted for presentation at the International Congress of Parkinson's Disease and Movement Disorders®, organised by the International Parkinson and Movement Disorder Society in Seoul, South Korea, from October 4–8, 2026. The abstracts were included in the online supplement of the Movement Disorders journal and presented at the congress. Further extending our global presence, one of our abstracts was selected for presentation at the CHEST Annual Meeting 2026, organised by the American College of Chest Physicians in Phoenix, Arizona, scheduled for October 17–21.

Research Grants and Scholarly Publications

Our students' dedication to research was recognised through prestigious grants. Ms. S. V. Swetha received the Indian Academy of Pediatrics–Indian College of Pediatrics Research Grant 2025 under the Undergraduate Paediatric Research category. Ms. Manoranjini V and Mr. Ganta Sai Surya Abhinav received the SPC Foundation Grant of ₹10,000, while Mr. Kushagar Tiwari was awarded the Metropolis Grant of ₹30,000.

Further contributing to scholarly literature, Ms. Shobhiyaa Panneer published an original research paper titled “Prevalence and Determinants of Migraine Among College Students in Ernakulam, Kerala, India: A Cross-Sectional Study.”

Recognitions and Looking Ahead

Our members also excelled at competitive academic platforms. Mr. Keerththan P M won First Prize in the CBME Paper Presentation at Sathya Sai Medical College, Chennai. At iMEDUCON, Mr. Vigneshwaran V secured Second Prize in the Undergraduate Paper Presentation, while Dr. Raghunandan won Second Prize in the Postgraduate category.

From January to October, these accomplishments have strengthened Medusane's commitment to research, collaboration, and academic excellence. We congratulate all our achievers and look forward to pursuing new opportunities, making meaningful contributions, and reaching greater heights together!

ONGOING PROJECTS

S. No.	Department	Conference	No. of Teams
1	Psychiatry	NIMHAMS (SRMA – 1)	1
2	Psychiatry	NIMHAMS (SRMA – 2)	1
3	Psychiatry	Scarf (SRMA)	1
4	Cardiology	ACC (SRMA – 1)	1
5	Cardiology	ACC (SRMA – 2)	1
6	Cardiology	AHA Cardio (SRMA)	1
7	Neuromedicine	MDS Neuromed (SRMA – 2)	1
8	Neurosurgery	MDS Neurosurgery (SRMA – 1)	1
9	Oncology	ASCO ONCO – Jan 2027	1
10	Gastroenterology	ACG (SRMA)	1
11	Rheumatology	ACR (Rheumatology) (SRMA)	1
12	Critical Care	CHEST 2026	1
13	World Congress of Cardiology	ACC 27 – WCC (10-12 April)	1

TOTAL

13

BEYOND THE MYTHS: DHAT SYNDROME WITH DEPRESSION AND SCROTAL PAIN.



Dr. Syed Mohammed Abuzer

Post graduate resident, Department of Psychiatry
Kanachur Institute of Medical Sciences- Mangalore

INTRODUCTION

Dhat Syndrome is a culture-bound disorder seen in Indian subcontinent, characterized by distress related to **semen loss**.

The term 'Dhatu' originates from the Sanskrit word 'Dhatu,' meaning the most concentrated and powerful bodily substance, believed to be vital for physical and spiritual strength. Individuals often present with vague somatic and psychological symptoms.

Cultural beliefs about semen loss significantly shape the illness, experience and influence health seeking behavior. Culture affects all aspects of health and illness, including the perception of it. Here, we report a case of Dhat syndrome which presented to us as symptoms of a moderate **depressive** episode and intermittent **scrotal** pain. Despite multiple consultations with doctors and undergoing several investigations, his symptoms persisted.

CASE DESCRIPTION

A 25-year-old single male from rural Bihar, currently living in Mudipu and working as a bike mechanic, with education up to the primary level, presented with a 6-year history of generalized weakness, intermittent scrotal pain, low mood, reduced concentration, and disturbed sleep.

He believed that these symptoms were caused by semen loss through urine and masturbation, which he perceived as depleting vital minerals from his body and leading to a fear of losing virility. There was no history of sexual dysfunction. Despite normal findings on repeated physical examinations and routine investigations, including scrotal ultrasound, he remained convinced of the harmful effects of semen loss.

PAST HISTORY

There were no other medical or physical comorbidities. There was no history of any psychoactive substance use. He had undergone multiple consultations in the past including investigations, like ultrasound of scrotum, which was normal.

FAMILY HISTORY

No history of any psychiatric illness in family.

PERSONAL HISTORY

Not significant. Sexual history-heterosexual orientation, masturbatory practices present, no sexual dysfunction. Patient had well adjusted pre morbid personality.

ON EXAMINATION

Not significant. Sexual history-heterosexual orientation, masturbatory practices present, no sexual dysfunction. Patient had well adjusted pre morbid personality. Physical and systemic examinations were normal.



Anxiety and stress



General weakness and fatigue



Excessive worry about loss of semen (dhat)



Depressed mood



Vague somatic complaints (e.g. backache, body pain)



Loss of self-confidence



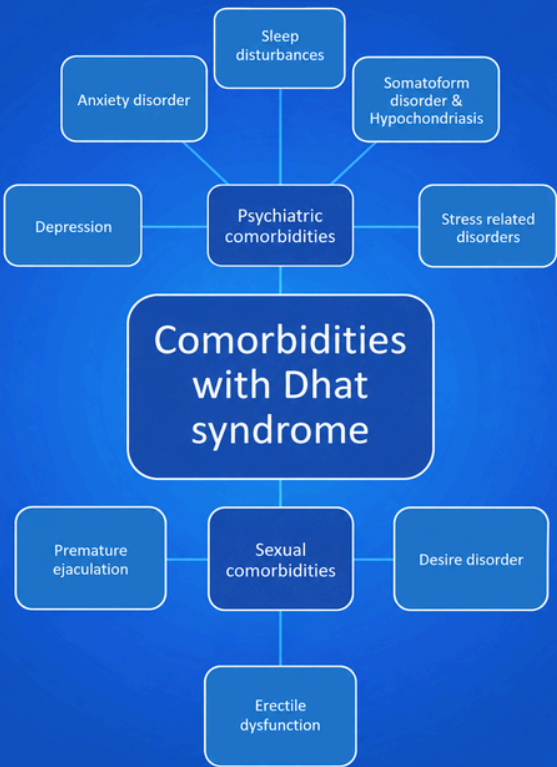
Poor concentration and lack of interest



Sleep disturbances (insomnia)

On mental status examination, there was poor eye to eye contact, reduced volume and flow of speech, depressed affect, hopelessness, pessimistic views about future, somatic preoccupation, and ideas of guilt.

Laboratory investigations (routine hemogram, urine - routine and microscopic, renal function test, liver function test and thyroid function test usg scrotum) were within normal limits. **Hamilton depression rating scale showed total 18.**



DISCUSSION

Depression is a frequent comorbidity in Dhat syndrome, often due to guilt over semen loss. Patient presented with depression, intermittent scrotal pain, and somatic complaints; scrotal pain and semen loss was the core issue.

Family criticism, conservative beliefs, Intensified distress. Literature shows Dhat syndrome is common in young men with conservative sexual attitudes, often linked to sexual dysfunction, anxiety, and somatic symptoms.

DIAGNOSIS AND MANAGEMENT

He was diagnosed with Dhat Syndrome(F 48.8) with Moderate depressive episode (F 32.1).

Combined modality of treatment (**pharmacotherapy and psychotherapy**) is considered to be the best modality of treatment in resolving the Dhat syndrome as well as the associated co-morbidities.

He was started on **Tab Escitalopram** 10mg/day increased to 20mg/day over 2 weeks along with weekly supportive psychotherapy sessions.

He showed improvement over the next 3 months (Beck Depression inventory score 28 to 15).

CONCLUSION

Dhat syndrome is more prevalent than commonly perceived and reported worldwide under various terms. It is often associated with anxiety, depression, somatic complaints, and psychosexual concerns.

Management requires a multidimensional approach pharmacotherapy, psychotherapy, and culturally sensitive psychoeducation.

Despite its clinical significance, classification remains problematic, and symptoms are seen beyond oriental populations. Further research is needed to clarify its nosologically status.

Dhat syndrome is a treatable disorder with good outcomes when addressed holistically.

THE EYE THAT PUNISHED THE INNOCENT: A CASE OF SYMPATHETIC OPHTHALMITIS FOLLOWING TRAUMATIC FUNGAL KERATITIS



-Dr. Sivarapu Mahesh, CRMI
Mysore Medical College & Research
Institute, Mysore

ABSTRACT

Sympathetic ophthalmitis (SO) is a rare but devastating bilateral granulomatous panuveitis occurring after penetrating trauma or surgery to one eye. The traumatised eye—the exciting eye, triggers an autoimmune response against uveal antigens, subsequently involving the uninjured sympathising eye. We report a case of a middle-aged male farmer who sustained vegetative ocular trauma to the left eye, was treated for fungal corneal ulcer, and was lost to follow-up. He re-presented two months later with diminution of vision in the previously normal right eye. Examination revealed granulomatous panuveitis with choroidal involvement in the right eye and atrophic bulbi in the left. A diagnosis of sympathetic ophthalmitis was established. This case underscores the catastrophic consequences of non-compliance with follow-up after penetrating ocular trauma, and the critical role of early **enucleation** of a blind, disfigured **exciting** eye in preventing this condition.

INTRODUCTION

Sympathetic ophthalmitis is one of the most feared complications in ophthalmology. First described by William Mackenzie in 1840, it is defined as a **bilateral diffuse granulomatous uveitis** occurring after trauma or surgery to one eye. While once thought to be predominantly post-surgical, the majority of modern cases still arise from penetrating trauma, particularly in agricultural settings where injuries with organic matter are common.

The condition has a bimodal timeline: it can occur as early as 10 days or as late as several decades after the initial injury - though 80% of cases occur

within one year, with peak incidence between 4–8 weeks. The pathogenesis involves breakdown of the blood-ocular barrier following trauma, exposing previously sequestered uveal antigens (particularly retinal S-antigen and IRBP) to the systemic immune system, triggering a **T-lymphocyte mediated autoimmune attack** on both eyes. Despite being rare - with an incidence of approximately 0.2–0.5 per 100,000 population annually- sympathetic ophthalmitis carries a profound risk of bilateral blindness if not diagnosed early and treated aggressively. This case is a sobering reminder of what happens when follow-up is lost.

CASE REPORT

PATIENT PROFILE & COMPLAINTS :

A middle-aged male farmer presented to the Ophthalmology OPD with a 2-week history of progressive, painless diminution of vision in the right eye - insidious in onset, with no associated redness, pain, photophobia, or watering.

- No h/o trauma or surgery to the right eye. No skin lesions, joint pain, fever, or systemic illness. No history suggestive of sarcoidosis, Vogt-Koyanagi-Harada syndrome, or other granulomatous conditions

PAST OCULAR HISTORY

Two months prior, the patient had sustained trauma to the left eye with vegetative matter while working in his agricultural field. He subsequently developed redness, photophobia, and watering in the left eye, for which he consulted an ophthalmologist and was diagnosed with a fungal corneal ulcer. He was treated conservatively with topical antifungals, broad-spectrum antibiotics, cycloplegics, and lubricants.

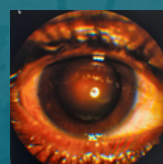


Fig 1. Right Eye

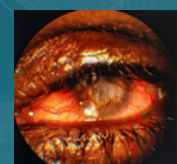


Fig 2. Left Eye

CLINICAL EXAMINATION:

GENERAL & SYSTEMIC EXAMINATION

The patient was a moderately built and nourished, middle-aged male - conscious, cooperative, and well-oriented. No pallor, icterus, cyanosis, clubbing, lymphadenopathy, or oedema. Vitals: PR 88 bpm, BP 130/80 mmHg, afebrile. Cardiovascular, central nervous system, respiratory, and abdominal examinations showed no abnormalities.

OCULAR EXAMINATION

Head posture was normal. Ocular posture was orthophoric in the right eye; the left eye not assessable. Ocular movements were full in both eyes.

INVESTIGATIONS

B-SCAN ULTRASONOGRAPHY

- Right eye: Multiple vitreous echoes with significant **choroidal thickening**, consistent with panuveitis.
- Left eye: Numerous moderate-reflective dots and clumps. A highly reflective elevated membrane suggestive of **retinal detachment** was noted. The globe appeared grossly disorganised, consistent with **atrophic bulbi**.
- Laboratory investigations including complete blood count (CBC), erythrocyte sedimentation rate (ESR), and blood biochemistry were within normal limits. Chest X-ray was unremarkable, excluding sarcoidosis.

Finding	Right Eye (Sympathising)	Left Eye (Exciting)
Vision	CF @ 1.5 metres	PL Negative
Adnexa	Normal	Mild ptosis; Globe shrunken, disorganised, enophthalmos
Conjunctiva	Normal	Congested with tortuous vessels
Cornea	Normal	Opaque; Superficial and deep vascularisation all quadrants
Anterior Chamber	Deep; Flare +; AC cells 2+ (SUN classification)	Details not assessable
Iris	Normal	—
Pupil	DLR reactive; CLR absent	—
Lens	NS1	—
IOP	15 mmHg	7 mmHg (hypotony)
Fundus	CDR 0.4; Macula dull/oedematous; Choroidal folds temporal to disc; Choroidal detachment superiorly	Not visualised

OCULAR EXAMINATION

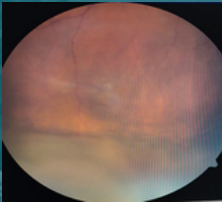


Fig 3. Diffuse yellow-white subretinal lesions.



Fig 4.exudative retinal detachment

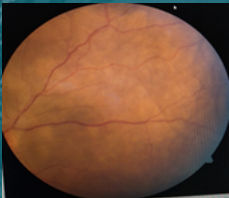


Fig 5.Multiple creamy Dalen-Fuchs nodules.

- Mantoux test was negative, and VDRL was non-reactive, effectively ruling out tuberculosis and syphilis as aetiologies of granulomatous uveitis.

DIAGNOSIS

- Right eye (sympathising eye): Granulomatous panuveitis secondary to trauma of the fellow eye (sympathetic ophthalmitis).
- Left eye (exciting eye): Post-traumatic atrophic bulbi.

DISCUSSION

PATHOGENESIS

The prevailing immunological mechanism of sympathetic ophthalmitis involves molecular mimicry and antigen exposure. Penetrating trauma to the exciting eye disrupts the blood–ocular barrier, exposing normally sequestered uveal and retinal antigens, primarily **retinal S-antigen (arrestin)** and interphotoreceptor retinoid-binding protein (IRBP), to the systemic immune system. **Activated CD4+ T-helper cells (Th1 and Th17)** subsequently traffic to the uvea of both eyes via the systemic circulation, initiating a bilateral granulomatous inflammatory response directed against melanocyte-associated antigens.

Histopathologically, sympathetic ophthalmitis is characterised by diffuse granulomatous uveitis with Dalen–Fuchs nodules, which are collections of epithelioid histiocytes located between Bruch's membrane and the retinal pigment epithelium. These nodules are considered virtually pathognomonic of sympathetic ophthalmitis when present in the appropriate clinical context.

WHY THIS CASE IS CLINICALLY IMPORTANT

- This case is a textbook example of sympathetic ophthalmitis and illustrates several important teaching points. The exciting eye sustained vegetative trauma, an agricultural injury, followed by fungal keratitis, progressive globe disorganisation, and eventual atrophic bulbi. The two-month interval before involvement of the sympathising eye is entirely consistent with the known **epidemiology** of sympathetic ophthalmitis.
- Second, and most importantly, the patient was lost to follow-up. The International Council of Ophthalmology recommends **enucleation** of a blind, painful exciting eye within 2 weeks of injury to dramatically reduce the risk of SO. Had the patient continued follow-up and undergone timely enucleation, the involvement of the right eye and the resultant visual loss might have been prevented entirely.

- Third, SO can be difficult to distinguish clinically from Vogt-Koyanagi-Harada (VKH) syndrome, another bilateral granulomatous panuveitis. The **key differentiating features** are: (1) SO always has a history of prior ocular trauma or surgery; (2) VKH is associated with neurological symptoms (headache, meningismus), auditory symptoms (tinnitus, dysacusis), and integumentary changes (vitiligo, poliosis, alopecia); (3) SO preferentially spares the choriocapillaris, whereas VKH affects it diffusely.

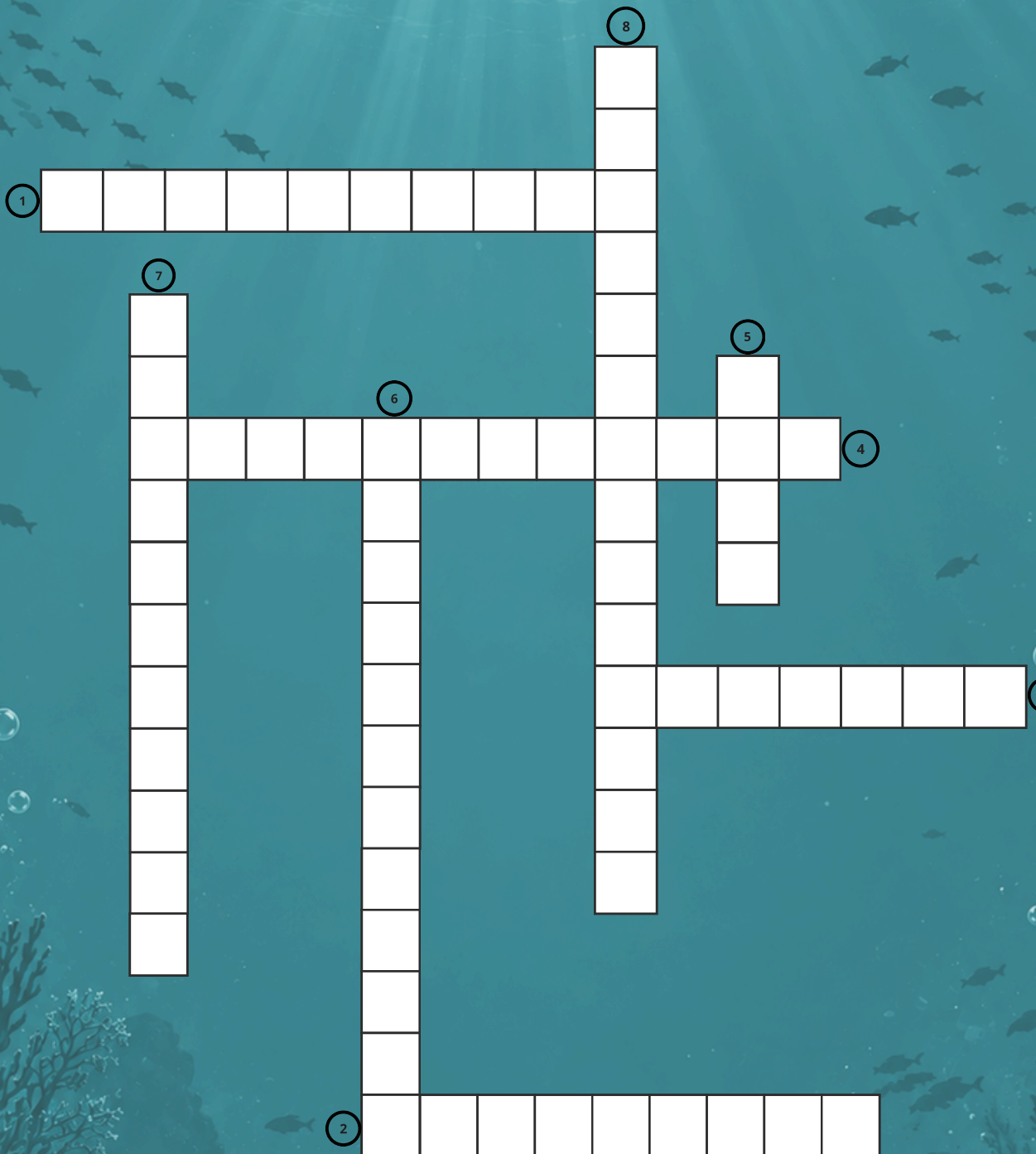
CONCLUSION

- Sympathetic ophthalmitis remains one of ophthalmology's most instructive cautionary tales. This case demonstrates the devastating consequence of a single missed follow-up appointment following **penetrating ocular trauma**. A condition that was entirely preventable - with timely enucleation of a disorganised exciting eye - resulted in **bilateral visual impairment**.
- For every clinician managing ocular trauma, this case carries a clear message: patient education and strict follow-up are not optional extras - they are the difference between monocular and binocular blindness. Early recognition, prompt referral, and aggressive immunosuppression when established remain the cornerstones of preserving vision in sympathetic ophthalmitis.

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CROSS-WORD



ACROSS

1. Relating to a class of viruses commonly used as vectors for gene delivery
2. A chemical or material that can produce physiological or psychological effects in the body
3. Glands situated above the kidneys
4. Study of drugs and their effects on living organisms

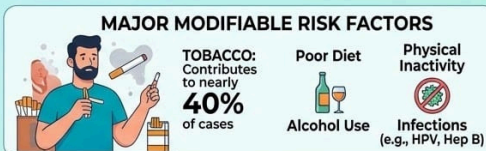
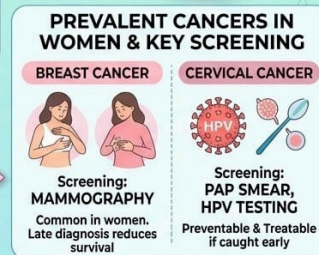
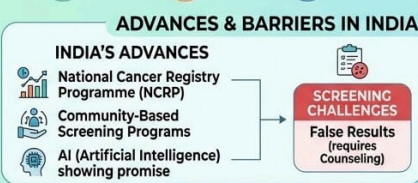
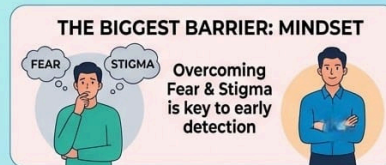
DOWN

5. Psychosocial syndrome characterized by excessive concern or anxiety about semen loss
6. Inflammation of the eye
7. Word relating to the diagnosis and treatment of mental disorders
8. Remote delivery of cardiovascular care using telecommunication and digital technologies

CANCER PREVENTION AND SCREENING IN INDIA

UNDERSTANDING CANCER PREVENTION: A KEY OPPORTUNITY FOR INDIA

Based on a Session by Dr. Soudamini Nayak, moderated by G.R. Swetha Sivapriya



Nearly 70% of cancers are preventable—an opportunity India cannot afford to miss, with around 1.5 million new cases annually. In a session by Dr. Soudamini Nayak, moderated by G.R. Swetha Sivapriya, the focus was on how many cancers arise from modifiable risk factors, with tobacco alone contributing to nearly 40% of cases. In women, breast and cervical cancers remain most common, with late diagnosis continuing to reduce survival rates. Cancer prevention spans four levels: primordial (better living conditions), primary (healthy lifestyle and vaccination), secondary (early detection through screening), and tertiary (effective treatment with quality-of-life focus). Screening tools like mammography, Pap smear, HPV testing, and oral exams are vital, though challenges like false results highlight the need for proper awareness and counseling.

India is advancing through initiatives like the National Cancer Registry Programme and community-based screening, with AI showing future promise. However, the biggest barrier remains mindset. Overcoming fear and stigma is key to early detection. Ultimately, early action not only saves lives but also improves long-term quality of life.

"Early action doesn't just save lives—it transforms them."

SPEAKER

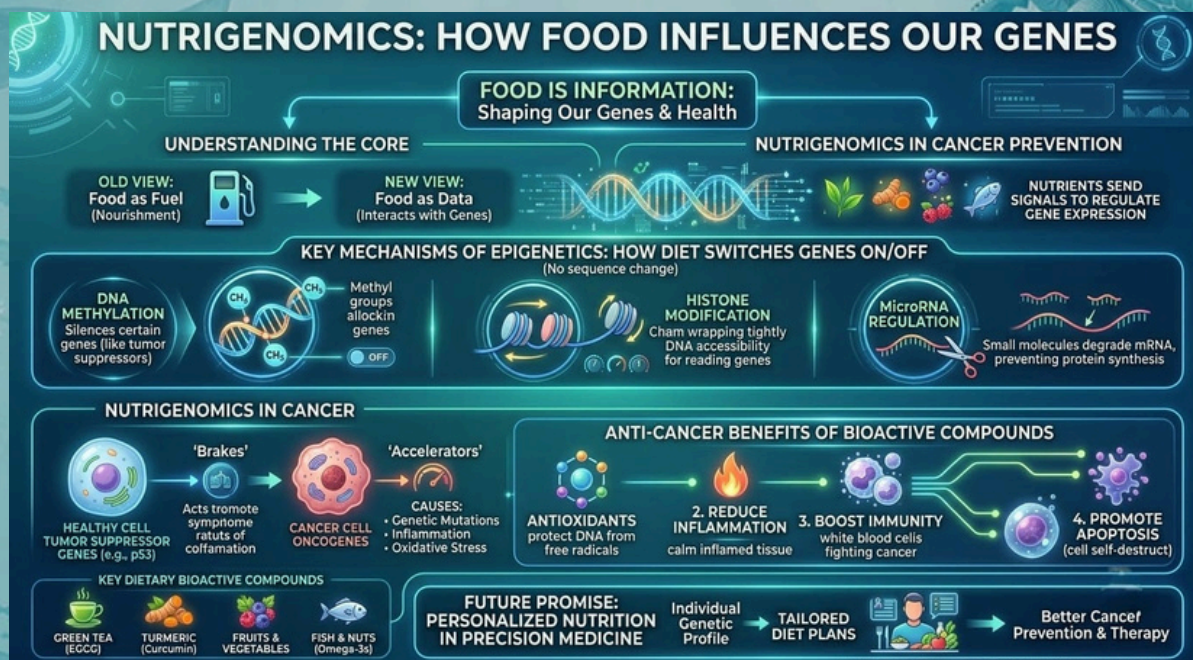
Dr. SOUDAMINI NAYAK
Assistant Professor

FEBS • MRCS • MS General Surgery

Speciality: Cancer Centre, Breast Diseases Division



NUTRIGENOMICS AND ITS EMERGING ROLE IN CANCER CARE



Can what we eat influence our genes? This question formed the basis of an engaging session on nutrigenomics by Dr. Jagadish Ramasamy, moderated by Hariharan B N. The discussion explored how nutrients interact with our genetic makeup to regulate gene expression and potentially impact diseases like cancer. He explained that cancer arises from genetic mutations, inflammation, and oxidative stress, with key regulators, including oncogenes and tumor suppressor genes such as p53 playing a crucial role. Nutrigenomics focuses on dietary bioactive compounds found in foods like tea, turmeric, fruits, and fish, which can influence gene activity through epigenetic mechanisms such as DNA methylation, histone modification, and microRNA regulation. These compounds can effectively switch genes on or off without altering the DNA sequence.

Beyond gene regulation, they offer anti-cancer benefits by acting as antioxidants, reducing inflammation, boosting immunity, and promoting the death of abnormal cells. Though still emerging, nutrigenomics holds promise for personalized nutrition in cancer prevention and therapy. It paves the way for diets tailored to individual genetic profiles, transforming food into a key tool in precision medicine. Ultimately, the session reinforced a powerful idea: what we eat is not just nourishment, but information that shapes our genes and health.

"Every bite you take is not just nourishment it's information for your genes."

SPEAKER

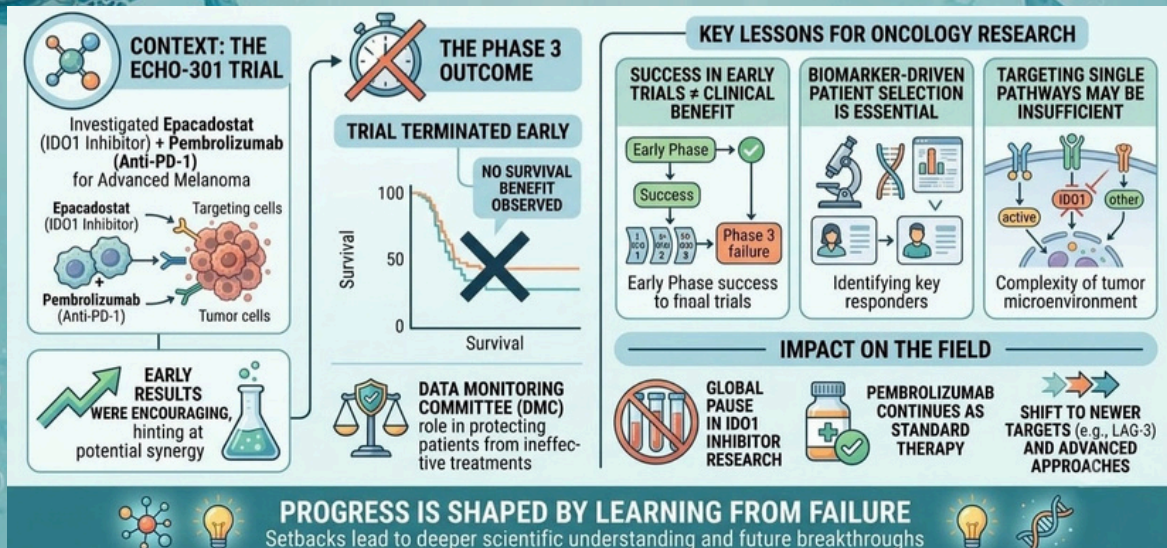
Dr. JAGADISH RAMASAMY

Assistant Professor of Biochemistry

AIIMS Madurai



WHEN PROMISE MEETS PROOF: THE STORY OF A LANDMARK IMMUNOTHERAPY TRIAL



What happens when a promising cancer therapy fails at the final stage? This question was explored in a journal club on the ECHO-3.1/KEYNOTE-252 phase 3 trial, presented by Dr. Karthikeyan Perumal and moderated by Keerththan P.M. The study investigated whether combining epacadostat with pembrolizumab could improve outcomes in advanced melanoma, but despite encouraging early results, the phase 3 trial showed no survival benefit, leading to early termination. The findings highlighted important lessons in oncology research: success in early-phase trials does not always translate into clinical benefit, biomarker-driven patient selection is essential, and targeting a single pathway like IDO1 may not be sufficient. This outcome also resulted in a global pause in IDO1 inhibitor research.

As for pembrolizumab, it continues as a standard therapy and focus shifts to newer targets like LAG-3 and other advanced approaches. The session also underscored the ethical role of Data Monitoring Committees in stopping ineffective trials to protect patients. Ultimately, the study reinforced that progress in medicine is shaped not only by success but also by learning from failure, as setbacks often lead to deeper scientific understanding and future breakthroughs.

"In research, setbacks don't end discovery, it is the beginning of a deeper understanding."

SPEAKER

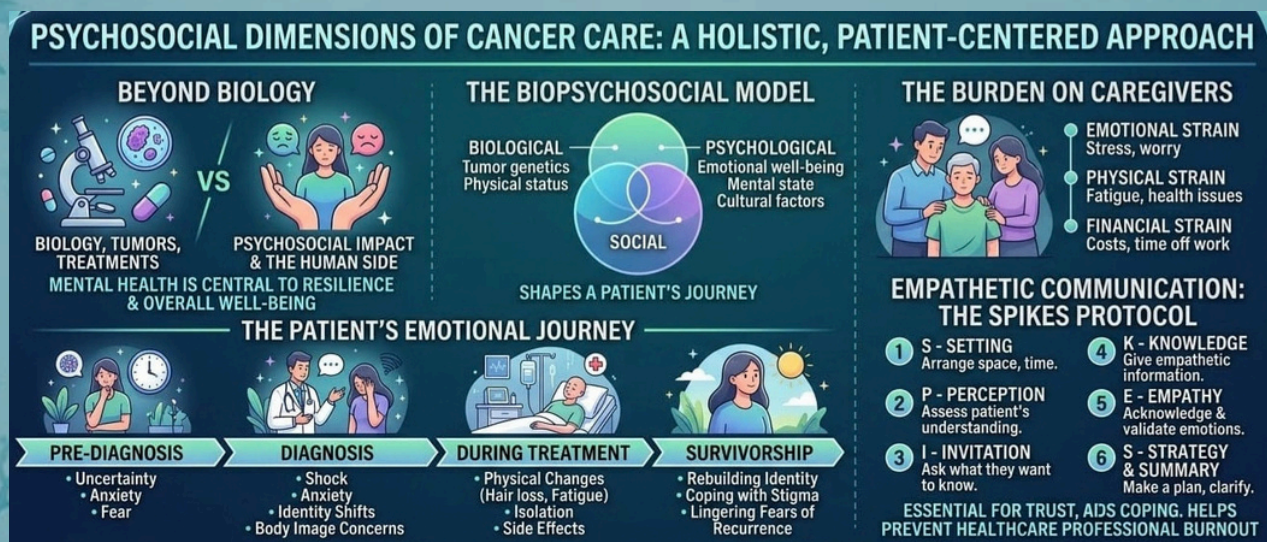
Dr. KARTHIKEYAN PERUMAL
Professor

Department of Radiation Oncology

Bhaarith Medical College and Hospital, Chennai



THE PSYCHOSOCIAL ASPECTS OF CANCER



Cancer is often viewed through biology—tumors and treatments—but a session by Dr. Aiswarya R Kamath, moderated by Joel Josh J, highlighted its deeper psychosocial impact and the human side of care. She emphasized that mental health is central to resilience and overall well-being, explaining through the biopsychosocial model how biological, psychological, and social factors shape a patient's journey. From uncertainty before diagnosis to anxiety, identity shifts, and body image concerns after it, and further challenges during treatment such as physical changes and isolation, patients navigate a complex emotional landscape. Even survivorship demands rebuilding identity while coping with stigma and lingering fears. The burden also extends to caregivers who face emotional, physical, and financial strain.

Empathetic communication, particularly using the SPIKES protocol, is essential for building trust and aiding patients in coping, especially for healthcare professionals facing burnout. Quality of life relies on not just disease progression but also emotional health, coping mechanisms, social support, with resilience and optimism as protective factors. A holistic, patient-centered approach is advocated, emphasizing psychotherapy, multidisciplinary care, and telehealth, highlighting that effective cancer care must preserve dignity, identity, and mental well-being.

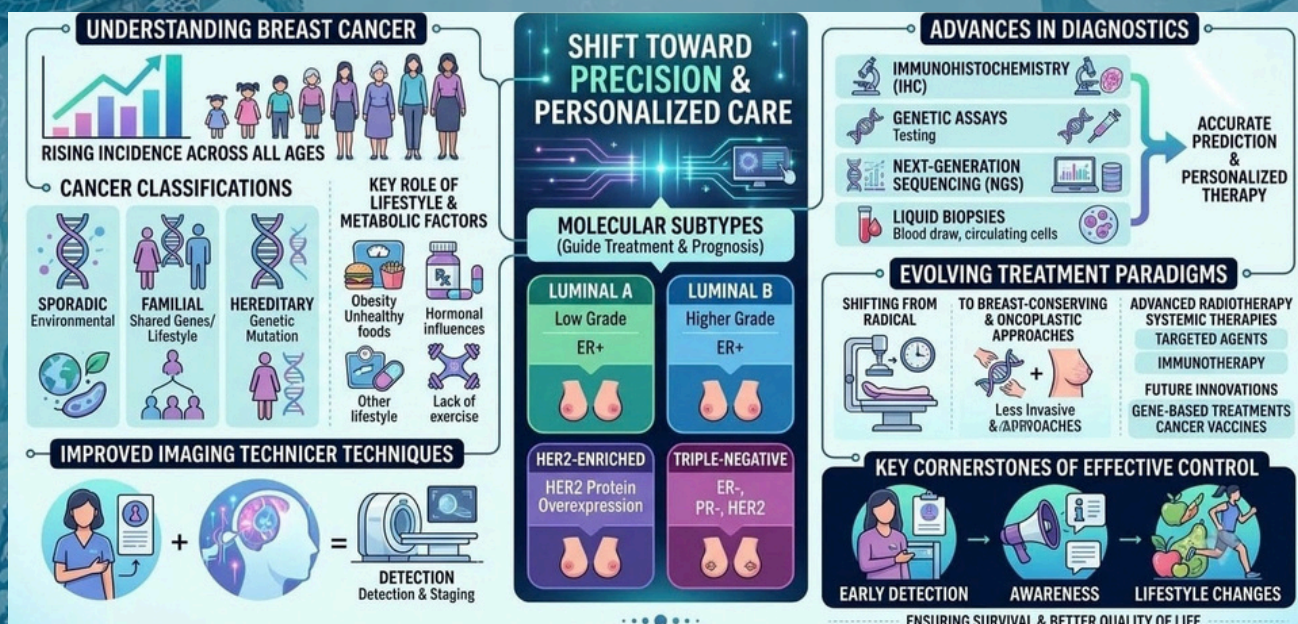
"In every breakthrough, let humanity remain at the heart of healing"

SPEAKER

Dr. AISWARYA R KAMATH
MD Psychiatry • DNB Psychiatry



ADVANCEMENTS IN CANCER TREATMENT



What if breast cancer could be predicted and prevented before it becomes life-threatening? This question framed an insightful session by Dr. A. Jayalal, moderated by Mohammed Shafi, highlighting the shift of oncology toward precision and personalized care. He discussed rising incidence across age groups and explained classifications like sporadic, familial, and hereditary cancers, while emphasizing the strong role of lifestyle and metabolic factors such as obesity and hormonal influences in disease development. The session explored molecular subtypes like luminal A, luminal B, HER2-enriched, and triple-negative cancers, which guide prognosis and treatment. Advances in diagnostics—including immunohistochemistry, genetic assays, next-generation sequencing, and liquid biopsies—now enable more accurate prediction and personalized therapy.

He also stressed the importance of understanding tumor biology, early metastasis, and improved imaging techniques for better detection and staging. On the treatment front, there is a shift from radical surgeries to breast-conserving and oncoplastic approaches, alongside advanced radiotherapy and systemic therapies like targeted agents and immunotherapy. Emerging innovations such as gene-based treatments and cancer vaccines signal a promising future. Ultimately, he emphasized that early detection, awareness, and lifestyle changes remain the cornerstone of effective breast cancer control, ensuring not just survival but better quality of life.

"The future of breast cancer lies in prediction, precision, and prevention."

SPEAKER

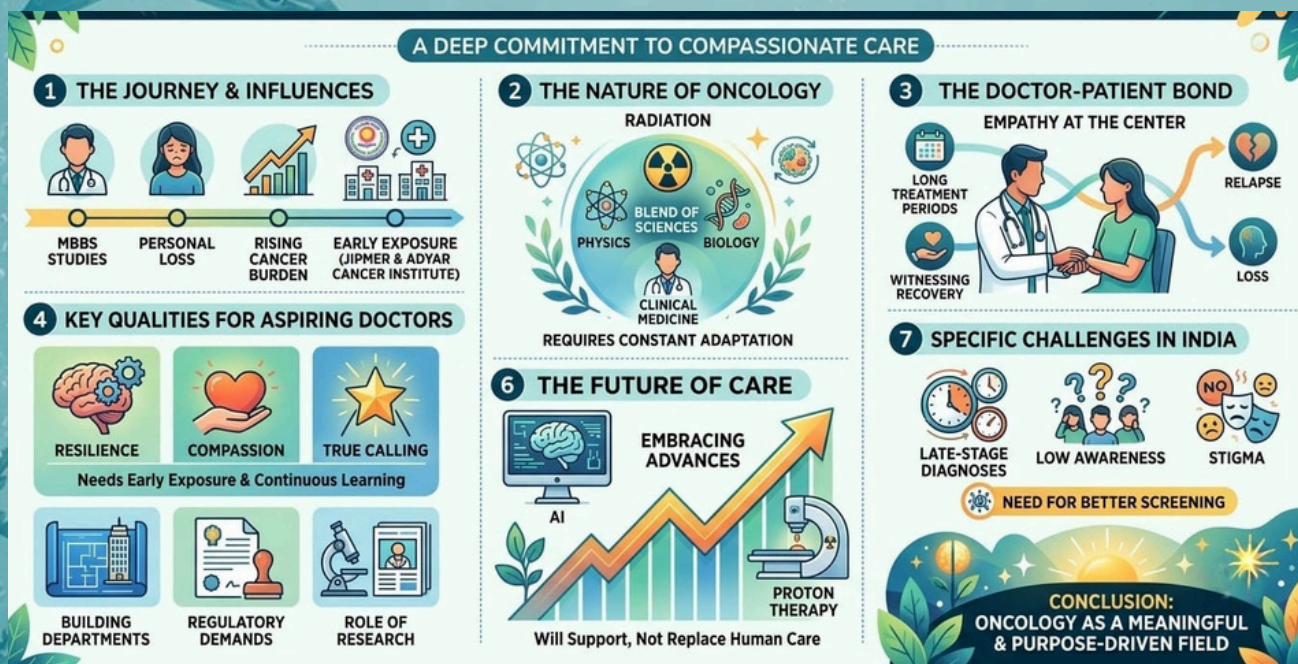
Dr. J. A. JAYALAL

Dean, CSI Medical College, Neyyoor

Honorable President,
Commonwealth Medical Association



ONCOLOGY UNCOVERED: CAREER, CHALLENGES AND CALLING



For many medical students, choosing a specialty is about interest and lifestyle, but oncology demands a deeper commitment—the willingness to support patients through their most difficult moments. This idea shaped a session by Dr. K. Satish Srinivas, moderated by Shobhiyaa Panneer, offering an honest look at cancer care. His journey began during MBBS, influenced by personal loss, the rising cancer burden, and early exposure at institutions like JIPMER and Adyar Cancer Institute. He described radiation oncology as a blend of physics, biology, and clinical medicine requiring constant adaptation. Long treatment periods create deep doctor-patient bonds, where oncologists witness recovery, relapse, and loss, making empathy essential. He also highlighted challenges beyond clinics, including

building departments, regulatory demands, and the role of research, while noting that advances like AI and proton therapy will support—but not replace—human care. For aspiring doctors, he emphasized that oncology requires resilience, compassion, and a true calling, along with early exposure and continuous learning. He also addressed challenges in India, such as late-stage diagnoses due to low awareness and stigma, stressing the need for better screening. The session concluded by portraying oncology not just as a career, but as a meaningful and purpose-driven field.

"Oncology is not just about treating cancer—it's about standing beside every patient with courage and compassion."

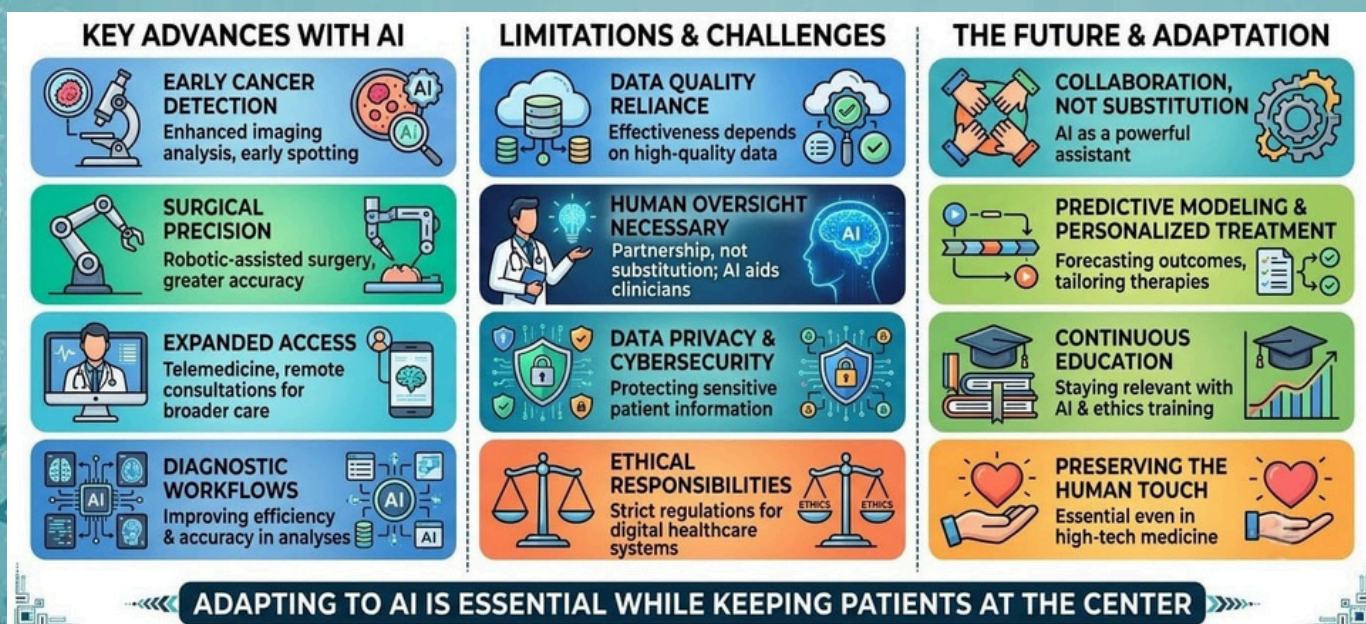
SPEAKER

Dr. K. SATISH SRINIVAS
M.D. RADIOTHERAPY

Professor and HOD, Department of Radiation Oncology - SRMC



AI MEETS ONCOLOGY: A GLIMPSE INTO TOMORROW



In a session moderated by Grace Angel, experts including Dr. Shakthesh K and Mr. Vijaykumar Radhakrishnan discussed how Artificial Intelligence (AI) is revolutionizing cancer care. Key points are included:

- AI enhances early cancer detection, surgical precision, and expands access to care via telemedicine.
- AI is integrated into diagnostic workflows, improving accuracy and efficiency.
- Limitations exist, as AI's effectiveness relies on high-quality data and human oversight, emphasizing a partnership between AI and clinicians.

Concerns regarding data privacy, cybersecurity, and ethical responsibilities were highlighted, stressing the need for strict regulations in increasingly digital healthcare systems.

The future lies in collaboration, not substitution. AI will act as a powerful assistant, aiding clinicians in decision-making, predictive modeling, and personalized treatment planning. Continuous education in AI and ethics was encouraged for medical professionals to stay relevant. As medicine evolves, adapting to AI is essential for every healthcare professional while preserving the human touch in patient care.

"Artificial intelligence enhances decisions—it does not replace doctors."

SPEAKER

Dr. SHAKTHESH
 Director, Hopkins ENT Clinic



SPEAKER

Mr. VIJAYKUMAR RADHAKRISHNAN
 Founder, AI and cybersecurity for healthcare



A JOURNEY THROUGH ELECTIVES

INTRODUCTION

In Block I, I chose Nephrology—a super-specialty I had always been curious about. Unlike our routine 3-hour clinical postings, electives immersed us fully in the department’s full-day schedules for 15 consecutive days, breathing the rhythm of the department. From morning outpatient consultations to lab visits, student seminars, ward rounds, ICU explorations, and finally the dialysis unit— it was a complete orbit of nephrological practice.

Block II took me into the buzzing heart of Emergency Medicine. Here, time ticked louder. I spent full days in the casualty, surrounded by life’s extremes—crashes, arrests, recoveries. Each day started with student-led seminars, followed by practical bedside sessions with the EMD faculty. We weren’t just taught— we were trained, tested, and transformed.

1. DESCRIPTION

As a final-year medical student, I believed I had seen enough of the hospital—until the electives shattered that illusion and rebuilt my understanding of medicine from its very core. Spread across two blocks, my electives in Nephrology and Emergency Medicine transformed how I learned, practiced, and viewed the doctor-patient bond. The experience gave me far more than just academic clarity; it gave me emotional grounding and a deep connection to the soul of the profession. I no longer saw myself as a passive learner but as an active participant in my own medical journey.

2. FEELINGS

Initially, I was nervous. The idea of spending entire days in a single department was intimidating. But very soon, that fear turned into curiosity, then into awe. In Nephrology, I felt like I was finally seeing what “medicine” truly meant— not as fragmented systems, but as interconnected stories of life. I saw how a single electrolyte imbalance could reflect liver, cardiac, or endocrine involvement. It made me feel more responsible for every small detail in a patient’s profile.

3. EVALUATION

The best aspect of electives was choice—we selected departments based on personal interest, igniting intrinsic motivation. Nephrology allowed me to connect physiology, pathology, and pharmacology into clinical judgment. I could look at a patient’s ABG and form provisional diagnoses confidently—something I once thought only postgraduates could do. It also gave me early exposure to super-specialty work, which has helped me shape future aspirations.

Emergency Medicine, on the other hand, drilled the essence of AETCOM into me. Every patient encounter was a test of empathy, ethics, and effective communication. I realized that even the most accurate diagnosis means little if not delivered with compassion. It was here I learnt the true value of teamwork, watching doctors, nurses, interns, and paramedics function as one living unit. I also saw how each decision, each second, could change lives— teaching me the gravity and grace of clinical practice

4. ANALYSIS

What made electives different from routine postings? Everything. It wasn't about hours- it was about immersion. Regular postings often feel like a checklist, but electives were a canvas- we painted our learning with real experience. The hands-on exposure in simulated emergencies taught me more than any textbook chapter ever could.

I understood CBME's vision firsthand- being self-directed, skill-oriented, and patient-centered. I wasn't just preparing for exams- I was preparing to be a responsible intern, a confident first responder, and, someday, a compassionate doctor. I realized that reflection is not just post-experience- it begins even before the action.

I began viewing patients not as systems, but as stories- stories that required attention, respect, and responsibility. I understood how protocols are more than rules- they are safety nets. I understood why triage is a skill and why every second counts. Electives gave me the courage to think, act, and most importantly, reflect.

5. CONCLUSION

My electives were not just 30 days of postings; they were a bridge, from theory to practice, from student to healer. I felt a transition in my identity, not just learning about medicine, but learning how to live it. It made me realize that confidence doesn't come from knowing everything, but from being ready to learn, adapt, and serve.

6. ACTION PLAN: FROM INSIGHTS TO IMPACT- SHAPING MY FUTURE

This electives journey has been a catalytic experience in transforming the way I perceive medicine, not just as a subject, but as a lifelong commitment. Going forward, I will carry these learnings into every patient interaction. I now understand that competency is not just knowledge, but the ability to apply, reflect, and respond empathetically. One immediate goal is to integrate self-reflection into my daily clinical practice- using reflective journaling to sharpen judgment, enhance empathy, and connect better with patients.

I plan to approach every department rotation with the same immersive mindset, seeing every posting not just as attendance, but as an opportunity to build on core competencies. I will also take up mentorship roles for juniors during their electives, helping them prepare and guide their reflective process as well. With the confidence and clarity gained in Emergency Medicine, I aim to strengthen my foundation in acute care and eventually pursue a specialization that demands both technical precision and emotional intelligence. Beyond personal growth, I wish to contribute to a reflective culture in my institution-by initiating informal reflection circles, participating in research around experiential learning, and developing simple reflective templates that juniors can use. This journey has opened a new dimension of learning, where failure is feedback, emotions are data, and self-awareness is the most powerful diagnostic tool.

As I move forward, I will strive to become not just a knowledgeable doctor, but a compassionate, adaptive, and reflective one- always learning, always improving. My ultimate goal is to carry this reflective mindset into my future practice, ensuring that my clinical decisions are rooted in both science and soul, and that I remain a lifelong learner and healer.

Dr.Nitish Kumar G
CRMI

(2021 Batch)
Sree Mookambika
Institute Of
Medical Sciences.

THE DAY I STOPPED LOOKING AT NUMBERS

"Not everything that can be counted counts, and not everything that counts can be counted."

I used to think medicine was a science of numbers. Hemoglobin levels. BMI charts. Percentiles. Cut-offs. Everything had a value. Everything had a label. Everything, I believed, could be measured and understood. Until one morning, in a school corridor that smelled faintly of chalk dust and sanitizer, those numbers began to feel... insufficient.

It was a routine screening day. A long queue of children stretched outside the room-shirts untucked, shoelaces loose, ID cards swinging against their uniforms. Some were curious, some anxious, most just happy to be out of class. Inside, I sat with a register filling with neat columns.

"Next."

A child would walk in. "Height. weight."

A number. "Any complaints?". Another line completed. It was efficient. Clinical. Almost mechanical.

Then she walked in. She smiled-not politely, but warmly, as if she was there to reassure me. I went through the routine. Her numbers were normal. Then I noticed pallor. I marked it down. "Do you feel tired often?"

She paused.

" 'Sometimes,' she said. 'But it's okay.' That it's okay" stayed with me longer than any hemoglobin value. It was not just an answer-it was adaptation.

After she left, something shifted.

I began noticing more-the boy avoiding eye contact, the child joking about scars, the quiet normalization of discomfort.

None of these fit into the proforma.

There were no checkboxes for hesitation.

Medical education trains us to observe-but also to filter. That day, I filled pages with data but left with questions.

At what point does a symptom become invisible?

Medicine is often called a balance of science and empathy-but empathy is rarely taught.

It is encountered in a school corridor. In a pause before an answer. I still record numbers. But now, I pause. Because medicine is not just about identifying what is wrong. It is about recognizing what has been quietly endured and that day, I stopped looking at numbers and started seeing people.

**Dr. Shrranya
Ravichandran
Medical Graduate**

**(2018 Batch)
Government Medical
College, Omandur.**

TREASURE HUNT



Few words have been subtly highlighted throughout the articles and case studies. Find them all and take the first letter of each word. Arrange the letters to reveal the hidden word. 10 words, one final answer.

S.NO	WORD	FIRST LETTER
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

FINAL WORD







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THE HIDDEN PANDEMIC: UNDERSTANDING AND DIAGNOSING UNCOMMON ILLNESSES (RARE MEDICAL DISEASES)

- Y.V Mallikarjuna Chari

INTRODUCTION

More than 6,000–8,000 rare diseases have been identified worldwide, affecting nearly 300 million people. Most begin in childhood and are chronic, progressive, and potentially life-threatening. Delayed diagnosis and limited treatment options contribute significantly to patient suffering.

RARE DISEASE STATUS IN INDIA

India currently lacks comprehensive epidemiological data on rare diseases. Applying global estimates suggests that 72–96 million Indians may be affected. Common rare diseases include haemophilia, thalassemia, sickle-cell anemia, primary immunodeficiencies, cystic fibrosis, and muscular dystrophies.

CORE DEFINITION OF RARE DISEASES

People living with rare diseases face unique challenges due to the infrequency of their conditions, including delayed diagnosis, inadequate management, and limited access to effective treatments.

DEFINING THE CHALLENGE

Although each rare disease affects only a small number of individuals, collectively they represent a major public health concern. Approximately 72% have a genetic basis.

IMPACT ON LIFE AND SOCIETY

Creates emotional, social, and economic burdens.

CHALLENGES FACED BY PEOPLE LIVING WITH RARE DISEASES

Misdiagnosis, poor awareness, limited treatment access, and financial burden.

TYPES OF RARE DISEASES

Include metabolic, neurological, connective tissue, blood, mobility disorders, cancers, and conditions like cystic fibrosis. Usually chronic, progressive, multisystem disorders.

DESCRIPTIVE FRAMEWORKS OF RARE DISEASES

Emphasize diagnostic challenges, disease burden, and global action.

COPING AND LIVING WITH RARE DISEASES

Support groups, specialist care, clinical trials, and psychosocial assistance are beneficial.

DIAGNOSTIC ODYSSEY AND TREATMENT GAP

Diagnosis is often delayed, with limited therapies available.

NATIONAL PLANS FOR DISEASES

India's NPRD 2021 supports patients through Centres of Excellence.

RARE DISEASES- FABRY DISEASE

- Akshaya Pulluru

INTRODUCTION

Fabry disease is a rare X-linked lysosomal storage disorder caused by mutations in the GLA gene, resulting in deficiency of the lysosomal enzyme α -galactosidase A. This leads to progressive accumulation of globotriaosylceramide (GL-3/Gb3) in blood vessels and multiple organs. It is also known as Anderson-Fabry disease and was independently described by Johannes Fabry and William Anderson in 1898.

CLINICAL FEATURES

Symptoms commonly begin in childhood and increase in severity with age:

- Acroparesthesia: burning or severe pain in the hands and feet, often triggered by heat, exercise or fever.
- Anhidrosis/hypohidrosis: reduced sweating with marked heat intolerance.
- Angiokeratomas: small, painless reddish-purple papules, commonly seen over the lower abdomen, groin, buttocks and thighs.
- Gastrointestinal involvement: abdominal pain, diarrhoea and other bowel disturbances.
- Cornea verticillata: whorl-like corneal deposits, usually without significant visual impairment.

ORGAN INVOLVEMENT

Kidneys: Proteinuria may be an early manifestation, progressing to chronic kidney disease and eventually renal failure.

Heart: Glycolipid deposition causes left ventricular hypertrophy and hypertrophic cardiomyopathy. Patients may develop dyspnoea, arrhythmias and conduction abnormalities. Cardiac disease is a major cause of mortality.

Brain: Cerebrovascular involvement can produce transient ischaemic attacks and early-onset stroke.

Skin: Angiokeratomas and abnormal sweating are important clinical clues.

DIAGNOSIS

Diagnosis is based on clinical suspicion and laboratory confirmation:

α -galactosidase A enzyme assay: demonstrates reduced enzyme activity and is particularly useful in males.

GLA genetic testing: confirms the diagnosis and helps identify affected relatives.

Renal biopsy: electron microscopy may demonstrate characteristic "zebra bodies", representing lamellar intralysosomal inclusions.

TREATMENT

Enzyme replacement therapy (ERT): agalsidase alfa, agalsidase beta and pegunigalsidase alfa.

Chaperone therapy: stabilises certain mutant α -galactosidase A enzymes and improves residual activity.

Supportive treatment includes analgesics for neuropathic pain and management of cardiac and renal complications.

Advanced renal failure may require haemodialysis or renal transplantation.

THE BOURNEVILLE ENIGMA: UNMASKING TUBEROUS SCLEROSIS COMPLEX THROUGH A ROUTINE EYE COMPLAINT

- Sivarapu Mahesh

CRRI, Mysore Medical College & Research Institute

INTRODUCTION

Tuberous Sclerosis Complex (TSC), also known as Bourneville's disease, is a rare autosomal dominant neurocutaneous disorder characterized by the formation of hamartomas in multiple organs, including the brain, skin, kidneys, lungs, and eyes. While classical childhood presentations include epilepsy, intellectual disability, and facial angiofibromas, adult cases may present subtly and remain undiagnosed for years.

CASE PRESENTATION

A 40-year-old woman presented with progressive difficulty in near vision for two months, associated with mild eye strain. She had no history of seizures, developmental delay, or learning difficulties. Distance visual acuity was 6/6 bilaterally, while near vision improved from N8 to N6 with a +1.00 D convex lens.

Detailed examination revealed multiple facial angiofibromas, ash-leaf macules on the back, a shagreen patch over the lumbosacral region, and an intraoral fibroma, raising suspicion of TSC.

INVESTIGATIONS AND DIAGNOSIS

Fundoscopy and optical coherence tomography demonstrated retinal astrocytic hamartomas. MRI brain revealed cortical tubers, subependymal nodules, radial migration lines, and a subependymal giant cell astrocytoma.

CT abdomen showed bilateral renal angiomyolipomas with renal cysts, while high-resolution CT thorax demonstrated lymphangioleiomyomatosis.

Based on the International TSC Consensus Guidelines, the patient fulfilled multiple major and minor criteria, confirming a definite diagnosis of TSC.

DISCUSSION AND MANAGEMENT

TSC results from mutations in the TSC1 or TSC2 genes, causing dysregulation of the mTOR pathway and uncontrolled cellular proliferation. This case is notable because extensive multisystem involvement occurred despite the absence of classical neurological manifestations.

Management required a multidisciplinary approach. Near-vision correction addressed the presenting complaint, while long-term care focused on surveillance of systemic lesions. mTOR inhibitors such as sirolimus and everolimus, along with topical rapamycin for facial angiofibromas, formed the cornerstone of therapy.

MAJOR CRITERIA	MINOR CRITERIA
Hypomelanotic macules (≥ 3 , ≥ 5 mm)	Intraoral fibromas (≥ 2)
Angiofibromas (≥ 3) or fibrous cephalic plaque	Multiple renal cysts
Shagreen patch	Non renal hamartoma
Multiple retinal hamartomas	
Cortical dysplasias (tubers)	
Subependymal nodules (SEN)	
Subependymal giant cell astrocytoma (SEGA)	
Lymphangioleiomyomatosis (LAM)	
Angiomyolipomas (≥ 2)	

CONCLUSION

This case highlights the importance of thorough clinical examination and vigilance. A simple ophthalmic complaint led to the diagnosis of a rare multisystem disorder, demonstrating how subtle clues can reveal significant underlying disease and enable timely multidisciplinary management.



FIG.1 FACIAL ANGIOFIBROMAS



FIG.2 SHAGREEN PATCH



FIG.3 ASH-LEAF MACULES



FIG.4 INTRA-ORAL FIBROMA

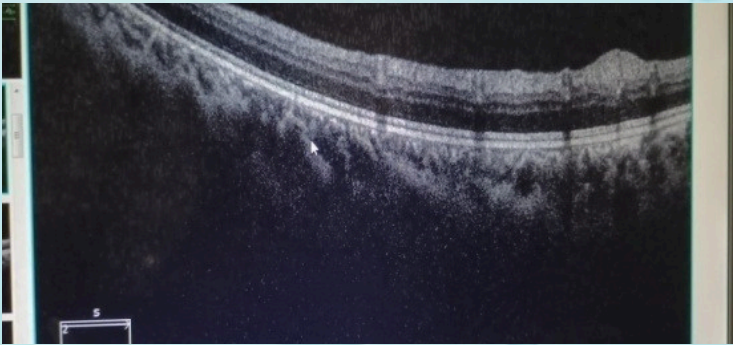


FIG.5 OPTICAL COHERENCE TOMOGRAPHY

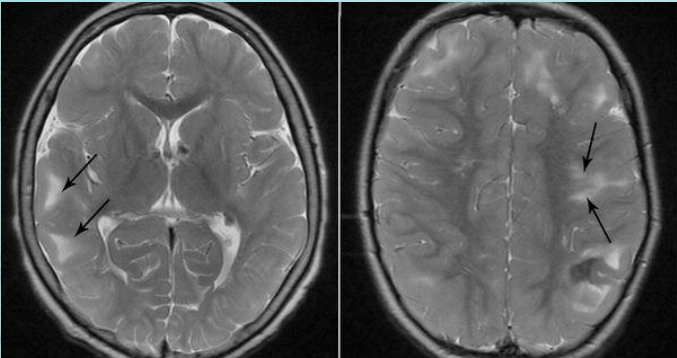


FIG.6 MRI OF THE BRAIN

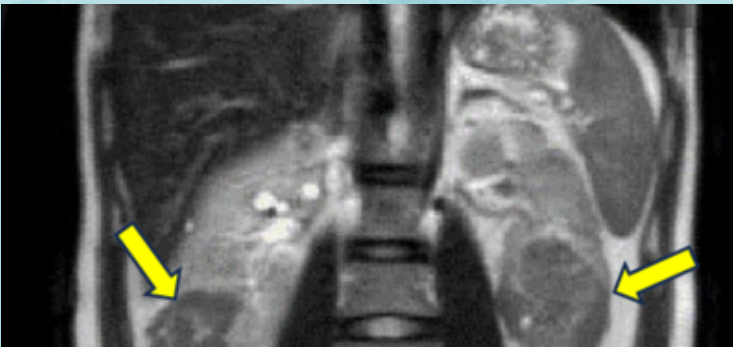


FIG.7 CT ABDOMEN

Acute Multifocal Hemorrhagic Encephalitis in an Adolescent: A Case with Clinical Features Overlapping ADEM and AHLE

-M.D.Zaryab Ahmad
Final year, Kurnool Medical College

13-year-old boy, with a history of neonatal PICU admission (5 days) for meningitis, was presented on 7th June 2025 with: High-grade intermittent fever with sudden onset over the last 5 days.

He developed 2 episodes of GTC seizures on 5th and 6th June each lasting for 2-3 Minutes with a 20-25 minutes PID.

The tonic phase is associated with tonic stiffening of all 4 limbs and uprolling of eyeballs.

No involuntary micturition, defecation, tongue biting or saliva drooling.

Post-seizure symptoms include severe frontal headache and multiple episodes of watery, non-projectile and non-bilious vomiting.

There was no significant past, family, nutritional, immunisation and developmental history.

No recent travel, trauma or vaccination.

EXAMINATION FINDINGS:

On admission, the child was irritable, non-cooperative and drowsy with a GCS of 14 (E4V5M5).

- Vitals stable.
- In general examination, pallor, edema, icterus, clubbing, cyanosis and lymphadenopathy were not present.
- Systemic examination was unremarkable.

NEUROLOGICAL EXAMINATION

- Neck stiffness: Positive; Kernig's sign negative.
- Reflexes: Generalized hyporeflexia (1+).
- Babinski: Initially right-sided → later bilateral.
- Progression: Drowsiness and altered sensorium; GCS fell to 9 by Day 4.

DIFFERENTIAL DIAGNOSIS

- Bacterial/TB meningitis
- AES / ADEM
- AHE / AHLE
- Aseptic meningitis
- HSV encephalitis

Clinical findings: Initially favored AES/ADEM/AHE.

MRI and investigations: Supported Acute Hemorrhagic Encephalitis (AHE).

INVESTIGATIONS

Fundoscopy: Normal ×2

CSF: Initially raised protein (265 mg/dL) and lymphocytic pleocytosis (594 cells/mm³), later improved to protein 100 mg/dL with 3 cells/mm³.

Viral CSF panel, HSV-PCR, NMDA antibodies: Negative.

Infectious workup: Mantoux, CBNAAT, Widal, Dengue IgM – Negative.

EEG: Generalized delta waves.

MRI brain: Right frontal T2/FLAIR hyperintensity with restricted diffusion and bilateral temporal microhemorrhages suggestive of AHE.

Tiny lacunar infarcts were also noted in the bilateral frontoparietal lobes and right thalamus.

MANAGEMENT

- Empirical therapy: IV antibiotics, antivirals, antimalarials, corticosteroids and anti-edema therapy.
- Supportive care: NPO, head-end elevation, IV fluids, monitoring of vitals/glucose.
- Seizure prophylaxis: Levetiracetam.
- For suspected autoimmune component: IVIG + high-dose corticosteroids.

PITUITARY HYPOPLASIA

-K.Manoj kumar raju

final year,viswabharathi medical college

CASE PRESENTATION

A 5-year-old boy was brought in with concerns of severe growth failure, first noticed around one year of age. His parents reported that his height and weight had remained significantly lower than those of his peers despite adequate care. There was no history suggestive of chronic systemic illness, recurrent infections, gastrointestinal symptoms, or prolonged medication use. Developmental milestones and immunisation status were appropriate for age.

Birth history was significant for micropenis since birth [Fig. 1] and absence of testes within the scrotum. Family history revealed a younger sibling with similar growth failure, raising suspicion of an underlying familial or genetic aetiology.

GENERAL EXAMINATION

The child appeared severely undernourished with proportionate short stature. Anthropometric assessment revealed a weight of 6.7 kg and a height of 73 cm, both below the 3rd percentile and more than three standard deviations below the mean for age, indicating severe wasting and severe stunting. Frontal bossing was evident on examination. Micropenis [Fig. 1] and bilateral undescended testes were present. No dysmorphic facial features, skeletal deformities, or signs of chronic systemic disease were identified. Nutritional assessment suggested significant calorie and protein deficiency.

INVESTIGATIONS

Investigations revealed markedly delayed bone age compared to chronological age. Serum insulin-like growth factor-1 (IGF-1) levels were significantly reduced. Growth hormone stimulation testing using clonidine demonstrated a severely impaired growth hormone response, confirming severe growth hormone deficiency. Thyroid function tests, serum cortisol levels, renal and liver function tests, metabolic screening, and evaluation for celiac disease were all within normal limits.

The gonadal hormone profile was suggestive of hypogonadotropic hypogonadism. Magnetic resonance imaging (MRI) of the brain with pituitary protocol demonstrated pituitary hypoplasia with a characteristic J-shaped sella turcica [Fig. 2], a radiological finding strongly suggestive of congenital hypopituitarism. These imaging findings, in conjunction with the hormonal profile, established the diagnosis.



Fig. 1: Clinical photograph showing micropenis with bilateral undescended testes in a child with congenital hypopituitarism and hypogonadotropic hypogonadism.

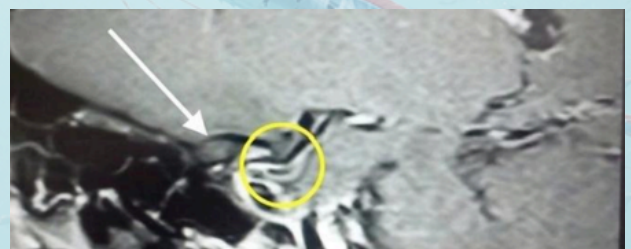


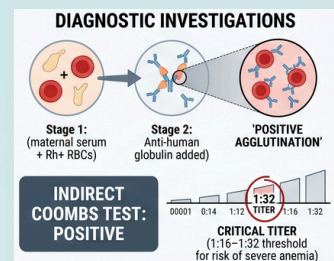
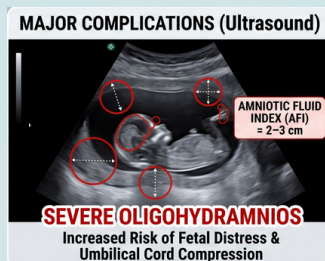
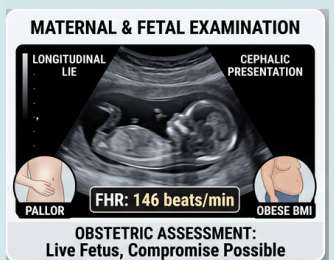
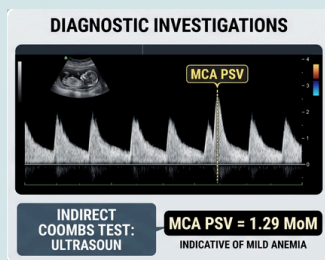
Fig. 2: MRI brain showing pituitary hypoplasia and a J-shaped sella turcica, consistent with congenital hypopituitarism.

RH INCOMPATIBILITY

-K.MANOJ KUMAR RAJU, M.SUKRUTHI
Final Year MBBS

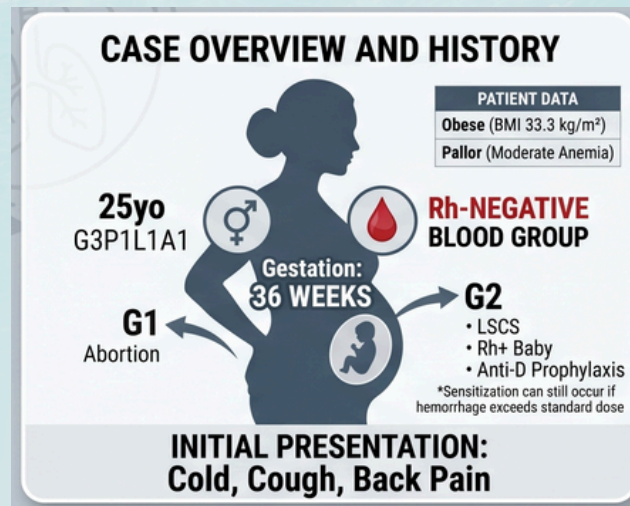
CASE DESCRIPTION:

Rh incompatibility remains an important cause of maternal and fetal morbidity in obstetrics, especially in unbooked pregnancies with inadequate antenatal surveillance. We present the case of a 25-year-old gravida 3, para 1, living 1, abortion 1 woman at 36 weeks of gestation with one previous lower segment cesarean section and Rh-negative blood group. She presented with complaints of cold, cough, and lower back pain for three days. Her obstetric history revealed a previous spontaneous abortion and a prior full-term cesarean delivery of an Rh-positive baby, for which Anti-D prophylaxis had been administered.



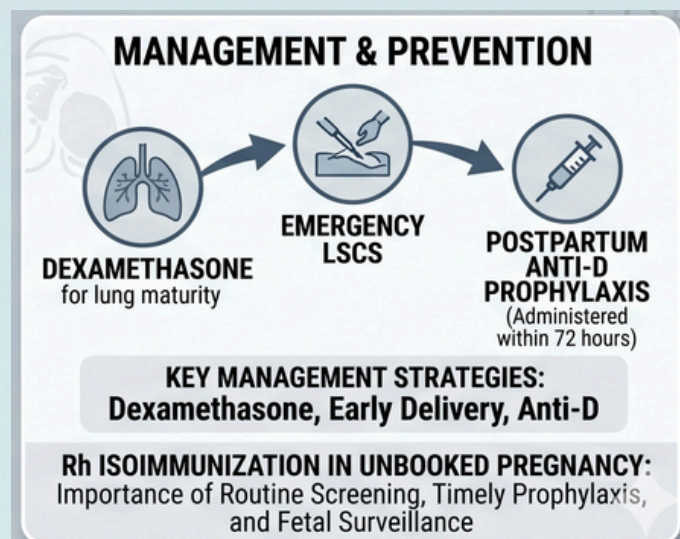
Given high antibody titers, oligohydramnios, and a previous cesarean section, emergency cesarean delivery was performed after dexamethasone, followed by postpartum Anti-D. The case underscores early antenatal care, Coombs testing, timely prophylaxis, and close fetal monitoring in Rh-negative pregnancies.

Investigation



GENERAL EXAMINATION

On examination, the patient was obese with a BMI of 33.3 kg/m² and had pallor suggestive of moderate anemia. Obstetric examination revealed a singleton live fetus in longitudinal lie with cephalic presentation and fetal heart rate of 146 beats/minute. Investigations showed indirect Coombs test positivity with antibody titers of 1:32, indicating Rh isoimmunization. Doppler assessment demonstrated a middle cerebral artery peak systolic velocity of 1.29 MoM. Ultrasonography revealed oligohydramnios with an amniotic fluid index of 2-3 cm.



SEVERE IRON DEFICIENCY ANEMIA DURING PREGNANCY

CASE DESCRIPTION

Severe iron deficiency anemia during pregnancy remains a major contributor to maternal and fetal morbidity, particularly in women from low socioeconomic backgrounds.

HISTORY

We present the case of a 29-year-old multigravida (G4P2L2A1) at 33 weeks of gestation with severe anemia admitted for evaluation and management. She conceived spontaneously six years after her previous childbirth and had a history of prior lower segment cesarean section.

INVESTIGATIONS

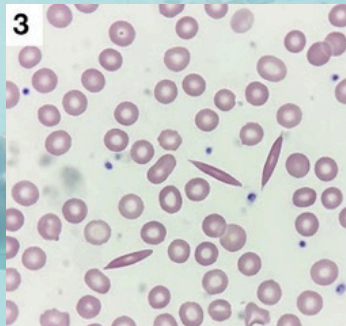
Antenatal investigations revealed severe anemia with booking hemoglobin of 6.6 g/dL. The patient complained of progressive fatigue, exhaustion, pedal edema, and shortness of breath on moderate exertion during the third trimester. She was initially compliant with iron and folic acid supplementation but discontinued therapy during the seventh month of pregnancy.

CLINICAL EXAMINATION

Clinical examination revealed pallor, pedal edema, and koilonychia suggestive of chronic iron deficiency. Peripheral smear demonstrated microcytic hypochromic anemia with pencil cells, while hematological indices showed low MCV and MCH, confirming severe iron deficiency anemia.



Pallor of the palms and koilonychia (concave, spoon-shaped nails).



M.D.ZARYAB AHMAD
Final year,Kurnool Medical College

Microcytic hypochromic red blood cells and distinct, elongated called "pencil cells"

Obstetric examination revealed a singleton live fetus in breech presentation with fundal height corresponding to gestational age. The patient was managed with iron sucrose infusions; however, she developed adverse reactions including nausea, vomiting, and dizziness following administration.

CONCLUSION

This case highlights the burden of severe anemia in pregnancy, the importance of early antenatal screening, nutritional counseling, and adherence to iron supplementation. It also emphasizes the need for careful monitoring during parenteral iron therapy and timely intervention to prevent maternal and fetal complications associated with severe anemia in pregnancy.



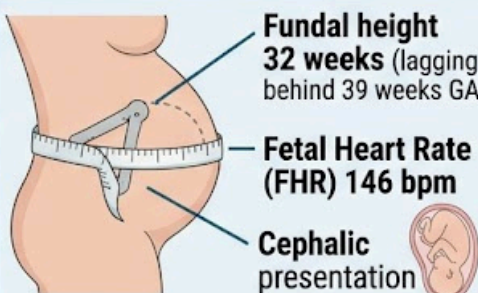
Ultrasound image showing the singleton fetus at 33 weeks of gestation

SEVERE OLIGOHYDRAMNIOS

CASE DESCRIPTION

Severe oligohydramnios is a high-risk obstetric condition associated with significant maternal and fetal complications, requiring timely diagnosis and careful management. This case report presents a 25-year-old multigravida (G3P2L2A0) at 39 weeks and 4 days of gestation who presented for routine antenatal evaluation and was diagnosed with severe oligohydramnios. The patient belonged to a lower socioeconomic background and had limited antenatal supervision during early pregnancy. She reported decreased urine output and reduced perception of fetal movements during the third trimester.

Clinical Exam



Fundal height
32 weeks (lagging behind 39 weeks GA)

Fetal Heart Rate (FHR) 146 bpm

Cephalic presentation

HISTORY

This case highlights the importance of regular antenatal visits, timely ultrasonographic assessment, maternal hydration, and early recognition of warning symptoms in preventing adverse fetal outcomes associated with oligohydramnios. It also emphasizes the challenges faced by women from underserved populations in accessing consistent prenatal care. Early detection and multidisciplinary management remain crucial in improving maternal and neonatal prognosis in such high-risk pregnancies.

-**PODILI YUVA VARSHITH**
Final Year, Kurnool Medical College

Case Overview

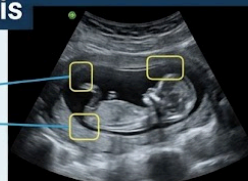


- 25yo G3P2L2A0
- Gestation 39 weeks 4 days

Her pregnancy was spontaneous, occurring six years after her previous childbirth. Despite an initially normal anomaly scan during the second trimester and compliance with iron, folic acid, and calcium supplementation, she did not undergo regular antenatal monitoring. Clinical examination revealed a fundal height corresponding to 32 weeks, suggesting fetal growth compromise in comparison to the gestational age. The fetus was in cephalic presentation with a fetal heart rate of 146 beats per minute.

Diagnosis

Ultrasound showing **Severe Oligohydramnios**
(Amniotic Fluid Index AFI < 5 cm)



Clinical Takeaways

- Importance of regular antenatal visits
- Early detection in underserved populations

EFFECTIVENESS OF AN EDUCATIONAL INTERVENTION ON KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS BASIC LIFE SUPPORT AMONG ADOLESCENTS.

-A. CHETHAN REDDY

BACKGROUND:

Out-of-hospital cardiac arrest is a significant public health problem in India, and low bystander cardiopulmonary resuscitation (CPR) rates contribute to poor survival outcomes. Adolescents are a receptive group for early Basic Life Support (BLS) training, which may improve community preparedness and emergency response.

OBJECTIVES:

To assess baseline knowledge, attitude, and practice (KAP) related to BLS among adolescents and to evaluate the effectiveness of a structured educational intervention in improving these parameters.

METHODS:

A pre-test and post-test interventional study was conducted among 166 intermediate-level students selected from randomly chosen educational institutions in the local district. Baseline data were collected using a validated 30-item self-administered questionnaire assessing knowledge, attitude, and practice, along with an objective checklist for CPR skills. Participants then underwent a structured educational session covering BLS principles and a practical demonstration of CPR using a mannequin or low-cost CPR pillow model. Post-test evaluation was performed using the same assessment tools. Pre- and post-intervention scores were compared, and statistical significance was considered at $p < 0.05$.



FIG.2 LOW COST MANNEQUINS

RESULTS:

Baseline assessment showed inadequate knowledge (mean score 4.67 ± 1.70), low confidence, and poor practical CPR skills among participants. Following the intervention, significant improvement was observed across all domains. The mean post-test knowledge score increased to 7.94 ± 1.15 , and the mean practical performance score improved to 7.33 ± 1.68 . Participants also reported reduced fear and hesitation in performing CPR. The improvements were statistically significant ($p < 0.05$).

CONCLUSION:

A structured educational intervention significantly improves knowledge, attitude, and practical BLS skills among adolescents. Incorporating BLS training into the intermediate curriculum could enhance bystander CPR rates and improve survival outcomes in cardiac emergencies.

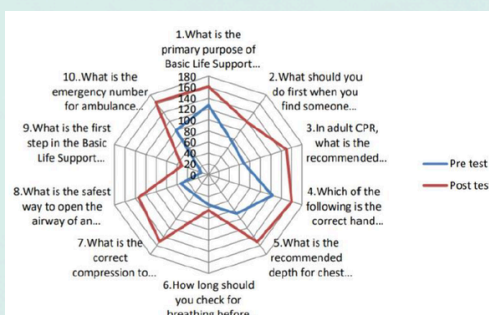


FIG.1 RADAR GRAPH

LEARNING IN THE DIGITAL AGE: PERCEPTION AND IMPACT OF DIGITAL LEARNING TOOLS AMONG MEDICAL UNDERGRADUATES

-HARSHITHA MEGHAVATH

BACKGROUND:

The rapid proliferation of digital learning tools (DLTs) and generative artificial intelligence has fundamentally reshaped how medical undergraduates engage with academic content, yet the extent of this shift remains poorly characterised in Indian institutional settings. DLTs ranging from AI-powered tutoring platforms to large language models such as ChatGPT have become widely accessible, raising important questions about student readiness, usage behaviour, and the risks of unregulated adoption in medical education.

OBJECTIVES:

To determine the extent of awareness of DLTs among medical undergraduates, to identify their usage patterns, and to assess the perceived helpfulness and impact of DLTs on academic learning across all phases of the undergraduate medical programme.

METHODS:

A cross-sectional study was conducted among 352 undergraduate medical students (Phase I to Phase III Part 2) at Kurnool Medical College, Andhra Pradesh from October to December 2025. A validated structured questionnaire was administered via Google Forms. Categorical variables were analysed using descriptive statistics and frequencies. Comparative analyses were performed using the Chi-square test and One-Way ANOVA in SPSS v27. Multiple-response questions were analysed as binary-coded sets.

RESULTS:

Overall awareness of DLTs was 74.1%, with social media (60.2%) and peer networks (59.4%) as the dominant sources, confirming the existence of a student-driven hidden curriculum. Among aware students, 91.6% were active users, with ChatGPT overwhelmingly preferred (74.1%). Concept clarification was the primary purpose of use (83.8%). While 64.0% strongly agreed that AI enhances learning efficiency, trust in accuracy remained moderate (39.5%), revealing a notable efficiency-trust paradox. Dependency and over-reliance were the top concerns (59.0%). One-Way ANOVA showed no statistically significant differences in overall perception or impact scores across academic phases [$F(3,235) = 0.058, p = .982$] or usage frequencies [$F(2,236) = 0.743, p = .477$].

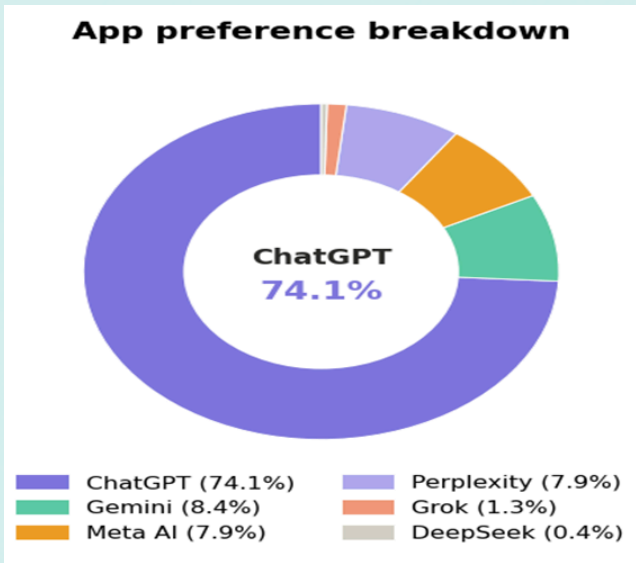


Figure 4. Distribution of preferred AI application among active DLT users.

CONCLUSION:

Medical undergraduates are increasingly using digital learning tools (DLTs) for self-directed learning, outpacing institutional policy. While usage is high, concerns about over-reliance, misinformation, and diminished critical thinking persist. Institutions should implement structured digital literacy curricula to promote accuracy, ethics, and critical appraisal skills for safe AI tool usage in medical education.

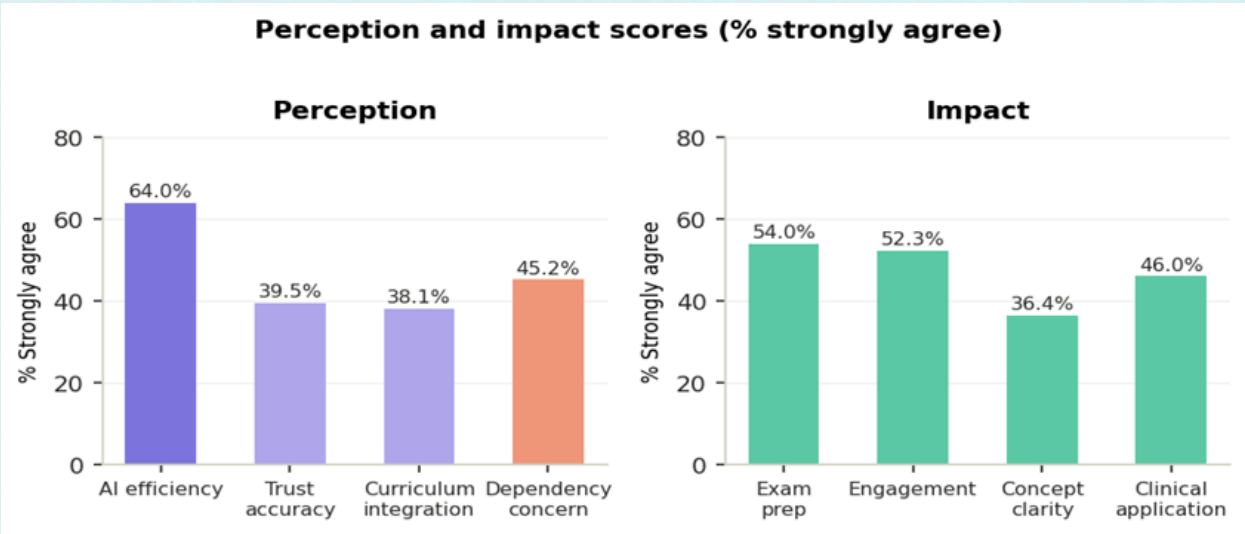


Figure 3. Percentage of students who strongly agreed with perception and impact statements

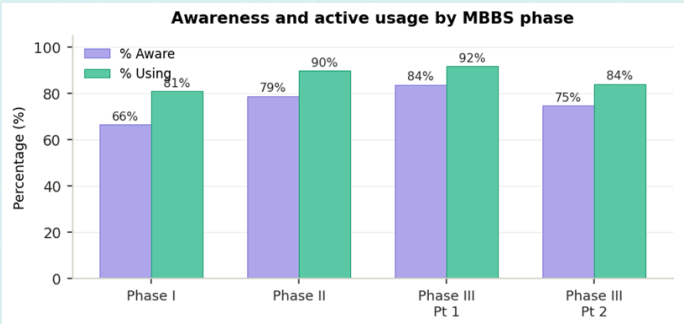


Figure 1. Percentage of students aware of DLTs and actively using them, by academic phase.

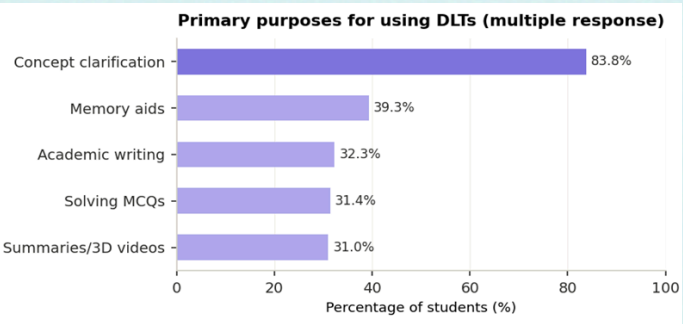


Figure 2. Most common reasons cited for using digital learning tools (multiple response; % of cases).

A COMPARATIVE CROSS-SECTIONAL STUDY ON THE ASSOCIATION OF SECRETOR STATUS AND ABO BLOOD GROUP WITH RECURRENT URINARY TRACT INFECTIONS IN AN INDIAN POPULATION.



-HARINI P

BACKGROUND:

Urinary tract infection is a widespread disease in women, with 20–30 percent of the patients experiencing recurrence. Uropathogenic *Escherichia coli* is the predominant pathogen, and host susceptibility is influenced by ABO antigen secretor status. Non-secretors do not have the ABO antigens on the mucosal surfaces and in body fluids, which supports bacterial adhesion. The past literature demonstrates inconsistent correlations among the population, and the data about Indian women is insufficient, necessitating the present study.

OBJECTIVES:

To determine the association between secretor status and occurrence of recurrent Urinary tract infections in females.

METHODS:

A cross-sectional analytical study with 84 female participants, in which 42 are cases with recurrent UTI and 42 are age-matched healthy controls. ABO antigen secretor status was assessed by the standard saliva agglutination test. The association between ABO secretor status and recurrent UTI was analyzed using the chi-square test, and odds ratio with 95% confidence interval was calculated. A p-value of <0.05 was considered statistically significant.

RESULT:

Among the cases, 40.52% were secretors and 59.52% were non-secretors, whereas among the controls, 78.57% were secretors and 21.42% were non-secretors.

Among cases, the non-secretor phenotype was most frequently observed in the B+ (36%), followed by AB+ (32%), O+ (20%), and A+ (12%). The association between secretor status and recurrent UTI was statistically significant (chi square $\chi^2 = 12.65$; $p = 0.00037$). Non-secretors demonstrated higher odds of recurrent urinary tract infection compared to secretors (odds ratio OR = 5.39), indicating a strong positive association.

CONCLUSION:

Non-secretor status showed a strong association with recurrent urinary tract infections among women. Identification of this phenotype may help recognize individuals at higher susceptibility and support targeted preventive strategies, warranting further longitudinal studies.

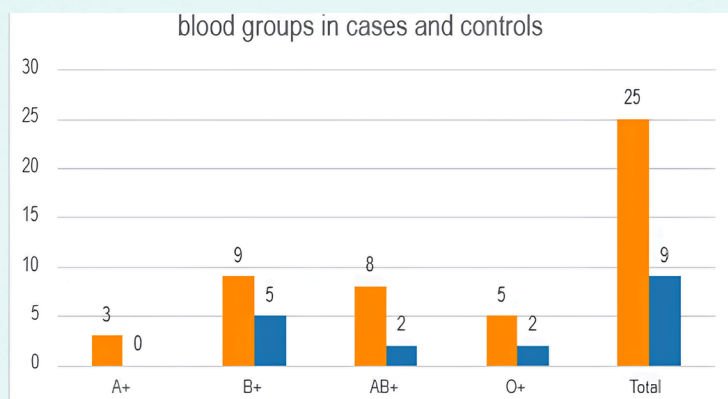
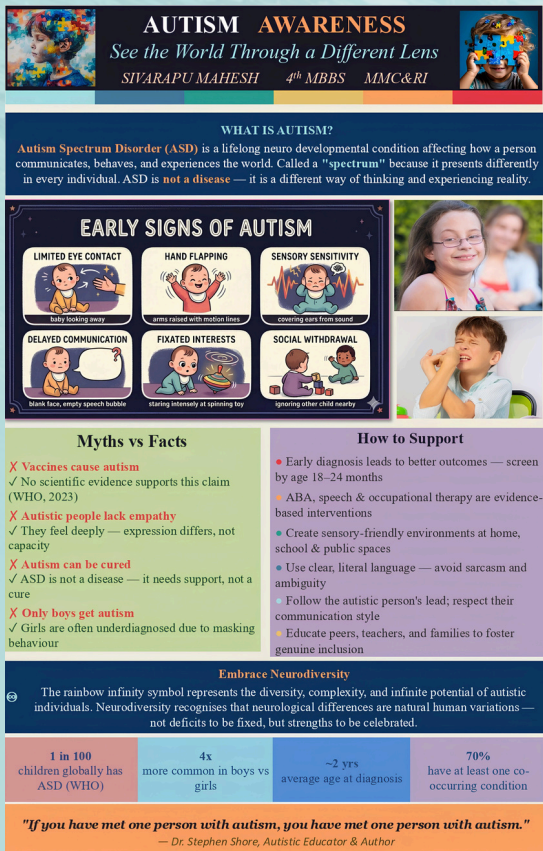


FIG.1 DISTRIBUTION OF NON SECRETORS AMONG DIFFERENT BLOOD GROUPS

ONLINE POSTER COMPETITION



AUTISM AWARENESS
See the World Through a Different Lens
 SIVARAPU MAHESH 4th MBBS MMC&RI

WHAT IS AUTISM?
 Autism Spectrum Disorder (ASD) is a lifelong neuro developmental condition affecting how a person communicates, behaves, and experiences the world. Called a "spectrum" because it presents differently in every individual. ASD is **not a disease** — it is a different way of thinking and experiencing reality.

EARLY SIGNS OF AUTISM

LIMITED EYE CONTACT Baby looking away	HAND FLAPPING Arms raised with motion lines	SENSORY SENSITIVITY Covering ears from sound
DELAYED COMMUNICATION Blank face, empty speech bubbles	FIXATED INTERESTS Staring intently at spinning top	SOCIAL WITHDRAWAL Ignoring other child nearby

Myths vs Facts

- X Vaccines cause autism**
✓ No scientific evidence supports this claim (WHO, 2023)
- X Autistic people lack empathy**
✓ They feel deeply — expression differs, not capacity
- X Autism can be cured**
✓ ASD is not a disease — it needs support, not a cure
- X Only boys get autism**
✓ Girls are often underdiagnosed due to masking behaviour

How to Support

- Early diagnosis leads to better outcomes — screen by age 18–24 months
- ABA, speech & occupational therapy are evidence-based interventions
- Create sensory-friendly environments at home, school & public spaces
- Use clear, literal language — avoid sarcasm and ambiguity
- Follow the autistic person's lead; respect their communication style
- Educate peers, teachers, and families to foster genuine inclusion

Embrace Neurodiversity
 The rainbow infinity symbol represents the diversity, complexity, and infinite potential of autistic individuals. Neurodiversity recognises that neurological differences are natural human variations — not deficits to be fixed, but strengths to be celebrated.

1 in 100 children globally has ASD (WHO)	4x more common in boys vs girls	~2 yrs average age at diagnosis	70% have at least one co-occurring condition
--	---------------------------------	---------------------------------	--

"If you have met one person with autism, you have met one person with autism."
 — Dr. Stephen Shore, Autistic Educator & Author



Sivarappu Mahesh
MMC &RI - 2021



CAUSES

- Genetic Factors
- Brain Development Differences
- Environmental Influences

STRENGTHS

- Strong memory
- Attention to detail
- Creativity
- Logical thinking
- Unique perspectives

Autism SPECTRUM Disorder
 Affects ~1 in 100 children worldwide.

ASPECTS

- Repetitive Behaviors & Interests
- Communication Differences
- Sensory Sensitivities
- Social Interaction

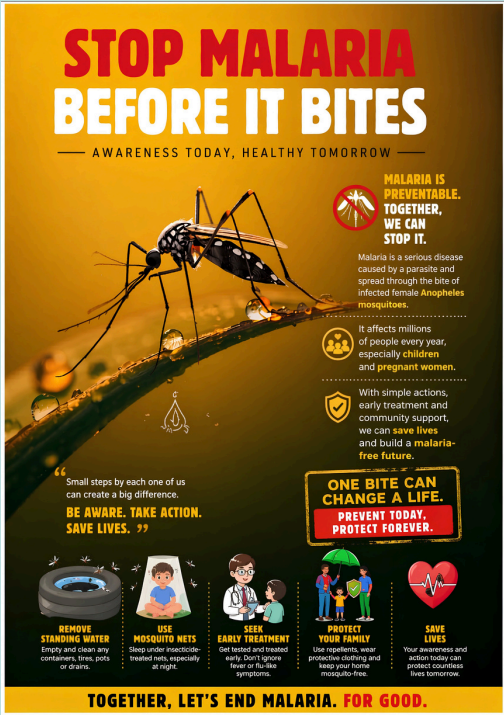
SUPPORT

- Speech and language therapy
- Occupational therapy
- Support in school and daily life
- Behavioral therapy (like ABA)

It's not a disability, but a different ability.



Eeti Heda
Vedantaa Institute of medical sciences-2025



STOP MALARIA BEFORE IT BITES
 — AWARENESS TODAY, HEALTHY TOMORROW —

MALARIA IS PREVENTABLE. TOGETHER, WE CAN STOP IT.

Malaria is a serious disease caused by a parasite and spread through the bite of infected female Anopheles mosquitoes.

It affects millions of people every year, especially children and pregnant women.

With simple actions, early treatment and community support, we can save lives and build a malaria-free future.

ONE BITE CAN CHANGE A LIFE. PREVENT TODAY. PROTECT FOREVER.

REMOVE STANDING WATER
Empty and clean any containers, tires, pots or drums.

USE MOSQUITO NETS
Sleep under insecticide-treated nets, especially at night.

SEEK EARLY TREATMENT
Get tested and treated early. Don't ignore fever or flu-like symptoms.

PROTECT YOUR FAMILY
Use repellents, wear protective clothing and keep your home mosquito-free.

SAVE LIVES
Your awareness and action today can protect countless lives tomorrow.

TOGETHER, LET'S END MALARIA. FOR GOOD.



Yuva Varshith Podili
Kurnool Medical College-2022

ANSWERS

CROSSWORD:

ACROSS

- 1.Relating to a class of viruses commonly used as vectors for gene delivery
Answer: LENTIVIRAL
- 2.A chemical or material that can produce physiological or psychological effects in the body.
Answer: SUBSTANCE
- 3.Glands situated above the kidneys
Answer: ADRENAL
- 4.Study of drugs and their effects on living organisms
Answer: PHARMACOLOGY

DOWN

- 5.Psychosocial syndrome characterized by excessive concern or anxiety about semen loss
Answer: DHAT (syndrome)
- 6.Inflammation of the eye
Answer: OPTHALMITIS
- 7.Word relating to the diagnosis and treatment of mental disorders
Answer: PSYCHIATRIC
- 8.Remote delivery of cardiovascular care using telecommunication and digital technologies.
Answer: TELECARDIOLOGY

TREASURE HUNT:

S.NO	WORD	FIRST LETTER
1.	DEMYELINATION	D
2.	EXHAUSTION	E
3.	PATHOLOGY	P
4.	RHYTHM	R
5.	ENUCLEATION	E
6.	SCROTAL	S
7.	STRESSFUL	S
8.	INTRACRANIAL	I
9.	OPHTHALMOLOGY	O
10.	NEUROINFLAMMATION	N

FINAL WORD:

D E P R E S S I O N

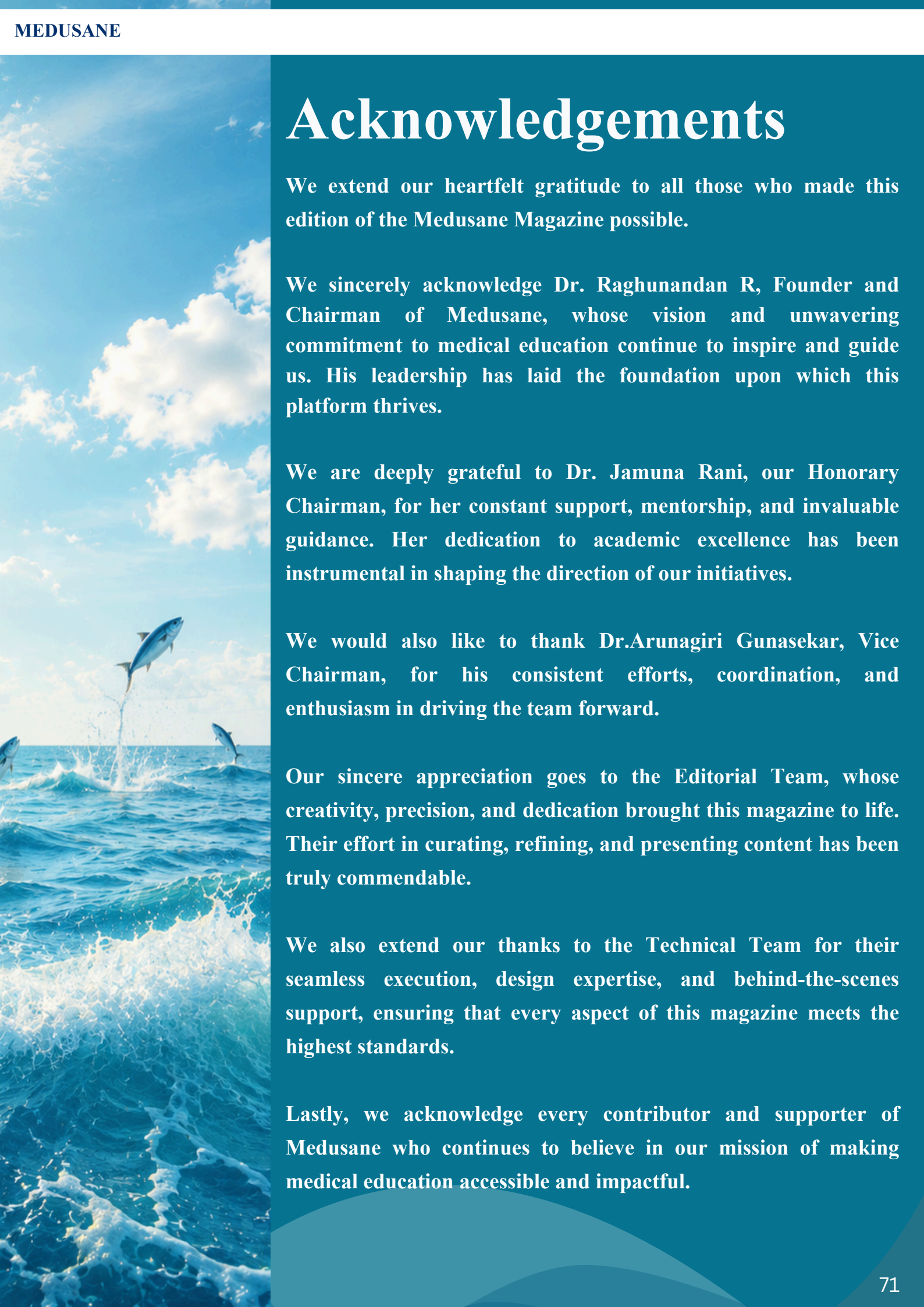
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Acknowledgements

We extend our heartfelt gratitude to all those who made this edition of the Medusane Magazine possible.

We sincerely acknowledge Dr. Raghunandan R, Founder and Chairman of Medusane, whose vision and unwavering commitment to medical education continue to inspire and guide us. His leadership has laid the foundation upon which this platform thrives.

We are deeply grateful to Dr. Jamuna Rani, our Honorary Chairman, for her constant support, mentorship, and invaluable guidance. Her dedication to academic excellence has been instrumental in shaping the direction of our initiatives.

We would also like to thank Dr. Arunagiri Gunasekar, Vice Chairman, for his consistent efforts, coordination, and enthusiasm in driving the team forward.

Our sincere appreciation goes to the Editorial Team, whose creativity, precision, and dedication brought this magazine to life. Their effort in curating, refining, and presenting content has been truly commendable.

We also extend our thanks to the Technical Team for their seamless execution, design expertise, and behind-the-scenes support, ensuring that every aspect of this magazine meets the highest standards.

Lastly, we acknowledge every contributor and supporter of Medusane who continues to believe in our mission of making medical education accessible and impactful.

COMING NEXT...



From nature's fiercest flames to the struggles that often remain unseen, our next edition explores the power of ***Fire*** as a symbol of destruction, transformation, and change.



We turn the spotlight on ***substance use and abuse***, uncovering its impact on individuals and communities while igniting conversations around prevention, awareness, and recovery.



*When the flames rise,
will they consume—
or spark a change?*