ISSUE-6

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EDITOR'S NOTE

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FROM PRESIDENT'S DESK

DR. VJ RAMESH

PROFESSOR,
NIMHANS,
DEPT OF NEUROANESTHESIA &
NEUROCRITICAL CARE
BANGALORE

I would like to begin by expressing my heartfelt gratitude for the opportunity to contribute to society through this platform.

It is a true honor. Neurocritical care is a relatively nascent specialty, and our society, too, is in its early stages. This presents immense potential for growth and advancement.
The recent annual conference was a testament to the impressive talent and dynamism within our community, especially among our young faculty and members. The executive committee, composed of vibrant and forward-thinking individuals, also reflects this energy and promise.
Together, we stand poised for tremendous growth—both for our specialty and our society. However, the success of this journey relies on the active involvement of every member. It is imperative that each of us contributes to the evolution of the field and the progress of our society. Ultimately, these collective efforts will enable us to achieve our primary objective: improving patient outcomes.

Long Live NCSI

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SECRETARY MESSAGE

DR. SAURABH ANAND
HOD
NEURO ANAESTHESIA & NEUROCRITICAL CARE,
ARTEMIS HOSPITAL, GURUGRAM

Dear Esteemed Members, Colleagues, and Friends,
Over the past year, our society has made significant strides in education, research, and advocacy. We have launched several new initiatives:

1. NCSI E-education
2. Fellowship in Neurocritical care (NCC) for aspirants who want to get trained in NCC.
3. The Fellow of Neurocritical Care Society of INDIA FNCC (NCSI) is a program offered by our society that recognizes exceptional service and leadership in the field of neurocritical care. Individuals who meet the requirements of this Fellowship will add the letters FNCC (NCSI) to their respective titles.
4. 12 Acute Neurocare courses were conducted last year
5. Collaboration with NCS on global platforms like Curing Coma Campaign and India-oceanic chapter.

Our collaborations with international neurocritical care societies have strengthened, allowing us to expand our understanding of best practices across different healthcare systems.

As we conclude this year's Annual Meeting in Chennai, I want to express my heartfelt gratitude to the organizers, especially Dr. V. Ponniah and Dr. Prasanna Bidkar, who, along with their team, demonstrated our commitment to advancing the science and clinical practice of neurocritical care with ground breaking research, thoughtful discussions, and meaningful collaborations. The highlight of this meeting, of course, was the beautiful venue and the opportunity to come together in person again, to reconnect with old colleagues, and forge new partnerships. The networking events have been fruitful, and I'm confident that the relationships we build here will lead to future collaborations that will shape the next generation of neurocritical care.
As Secretary, I am pleased to report that we continue to grow our membership, our financial health remains strong, and we are investing in critical areas such as member education, advocacy, and research grants.
Looking ahead, we have many exciting developments on the horizon. We are enhancing our online learning platforms, expanding our mentorship programs, and increasing opportunities for our members to engage in leadership roles within the society.

Finally, I would like to express my gratitude to Dr. Shashi Shrivastava for her invaluable service as she leaves the board, and extend a warm welcome to Dr. Bibhukalyani Das (President Elect) as the newest member of the executive committee. Additionally, I want to extend my best wishes to the upcoming organizing team of PGI Chandigarh, who will be hosting the 6th NCSI under the able leadership of Dr. Nidhi Panda. I am eager to see another year of growth and collaboration.

TREASURER MESSAGE

DR. KESHAV GOYAL,
PROFESSOR,
DEPT OF NEUROANAESTHESIOLOGY, AIIMS,
DELHI.

I would like to extend my heartfelt gratitude to all members of our society, with particular appreciation for our former office-bearers for their unwavering support and dedication.

Your commitment and expertise have been instrumental in our continued success and growth, reflecting the collaborative spirit that drives the progress of our branch at the national level.

Through the diligent management of our financial resources, we have ensured the sustainability of our initiatives, allowing us to host impactful conferences, support educational programs, and launch new research projects.

Our society's financial health remains robust, thanks to the contributions and participation of all members. This collective strength enables us to not only uphold our current endeavors but also explore new avenues that will further our mission.
We are pleased to announce the availability of research and travel grant support aimed at fostering innovation and collaboration within the field of neurocritical care. We strongly encourage all eligible members to apply and take advantage of these resources to advance their research and contribute to the global dialogue on improving neurocritical care practices and patient outcomes.

In conclusion, I firmly believe that our society will continue to serve as a beacon of innovation and excellence within our field. Let us maintain our unity and shared vision as we strive to advance neurological understanding and improve the quality of life for those affected by neurological disorders.

Creating safe spaces for women to work and thrive in: What can we do?

DR ANKITA DEY
AIIMS BATHINDA

The entire nation and the medical fraternity, in particular, was shocked into silence when a trainee doctor was allegedly subject to brutal sexual assault and murder within the hallowed premises of the hospital where she worked to save the lives of countless patients in Kolkata, in the recent past. Unfortunately, this is not an isolated incident, although the brutality associated with it may be unprecedented. Incidents of violence against doctors in general, and women doctors, in particular, have been on the rise in India. Despite the spate of protests that follows every incident, few concrete steps have been taken to address this macro problem. However, the magnitude of the problem cannot be addressed by administrative handling alone.

The problem starts with the prevalent patriarchal attitudes towards the female child. The overwhelming desire for a male child in certain communities puts undue duress on the woman to procreate till she conceives a male offspring. Selective female feticide and infanticide are rampant in a few provinces. Should a female child survive these odds and be born, discrimination against her begins within the confines of her home.

In many homes, even to this day, women are denied the right to education. A female child is often expected to help in household chores from a tender age, while no such expectation rests on her male siblings. This sense of “entitlement” that comes by sheer dint of being born as a biological male, often manifests in toxic and ghastly ways as the male child grows. Men are taught that cooking, cleaning, and taking care of the household are “womanly” tasks. Men are taught that they should not cry, come what may. That is something that women do, and it is perceived as a sign of weakness. Little boys grow up seeing their mothers and aunts toiling in the kitchen while their fathers and other men in the family put their feet up and rest and are waited upon. They then go on to perpetuate and normalize these practices as adults. It is a vicious cycle that can be broken only with the help of education.

Both men and women should be taught that there is no such thing as a “manly” or a “womanly” job. Male children should be initiated into household chores by their parents because fending for oneself has little to do with gender. Both boys and girls should be taught to treat each other with compassion and respect. Sexist jokes and misogynistic comments should be called out everywhere and every single time. The noxious idea that how a woman behaves or what she wears may be responsible for crimes against her needs to be nipped in the bud.

Choosing to go where one likes and wear what one wants to is a basic freedom that should not be tied to gender. Implementation and enforcement of laws against crimes against women have to go hand in hand with changes in deep-seated, primitive attitudes.
The onus of making a workplace safe for women rests on the administrators. A women’s safety and anti-harassment cell should be operational in every institute and every office. This cell should be helmed by women and men who are empathetic and non-judgemental. Sensitisation of the workers to the specific and unique problems that women may face and enabling a system where they can reach out to their colleagues and administrators without the fear of being judged or ostracised is the need of the hour. The laws are there, but what is needed is their robust implementation and not just eye-wash.

The changes need to begin at home. Small changes. Setting the same ground rules for men and women would be a great start to providing a level field for both genders. A woman who is treated at par with her male counterpart at home exudes confidence at her workplace as well. Parents would do well to teach their sons to mind their own business before limiting the freedom of their daughters. These solutions may seem inconsequential and even utopian because the festering rot of patriarchy is all too real. When half of the population is forced to live in constant fear of some or the other form of abuse, the problem should shake everyone and not just women. This is not the way in which democracy is supposed to function. Change is the only constant, and it has to begin at some point in time.

What better time than now?

COMPANIONSHIP AND COMPASSION

LADY

Dr Mathangi Krishnakumar
Associate Professor
Surgical and Neuro ICU
Department of Anesthesia
St John's Medical College

HOW A CANINE SHAPED MY PATH IN NEURO CRITICAL CARE

“ Amid the high-stakes world of neuro-intensive care, it was a campus canine named Lady who taught me the most about resilience, compassion, and the quiet power of hope “

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LADY

Guardians of Safety

Charting New Territory

My Experience as an Administrator

It was a big surprise when I was called in to take over as Medical Superintendent of the hospital as no Anaesthesiologist had held that position before, I knew there was challenge ahead and accepted that challenge.

The start was tentative as many places in the hospital were new and the responsibilities were immense, and to successfully manage the entire hospital was a huge task. The job entailed planning, directing, and coordinating care delivery across the hospital including Emergency, Outpatient and Inpatient services and coordinating with the various departments. Ensuring the hospital health services are of high quality and safe the onus was to provide the support with resources and solutions. The key to be successful was strategic thinking, leadership, implementing regulatory compliance, having patient-centered care skills and good financial management, and being a senior in the hierarchy helped significantly. As a clinician the ground realities and goals were clear, as a new comer the task was to get everyone on board for the smooth conduct of hospital services and leading them from the front and being decisive helped to convince care providers.

Effective communication with the staff was crucial to get their support, listening patiently and meeting their requirements quickly. In addition to patient care there were other requirements like liaising with other health and welfare providers, conduct of medical boards and advising government bodies about measures to improve health services. had the privilege of representing the organisation in conventions, seminars, public hearings and forums assisting in selection, training and supervision of human resources of senior and junior medical staff.

The job was stressful especially during COVID-19 as counselling, comforting and reassuring them as a team helped people to overcome fear which was real.

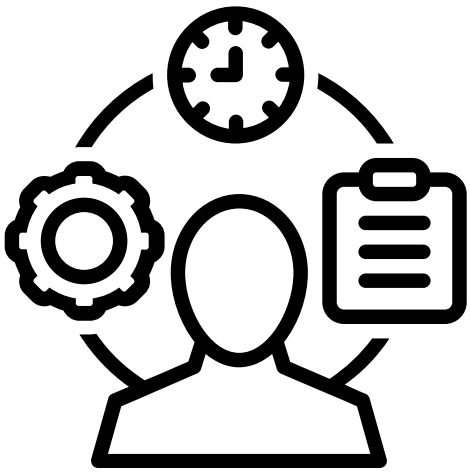
Dr Bhadrinarayan V
Senior Professor
Department of Neuroanaethesia and Neurocritical Care
NIMHANS

At the end of the day, I believe that when people feel safe, they're empowered to give their best, and that's when great things happen for both staff and patients.

The message to get across to all was, I was doing everything possible to keep them safe in hospital. I could feel their emotions through long and difficult working hours and we knew that care was getting affected. During this period ensuring that all staff uphold the code of conduct, comply with regulations while meeting performance metrics was hugely challenging. Being a clinician had a great bearing on my performance and others, as they saw me as quick thinking, decisive, passionate, considerate and well intentioned and used the authority to be constructive. There were a lot of brickbats too as there were complaints from patients, their caregivers and our own staff to provide solutions as everyone had high expectations. To be successful as an Administrator and getting the best out of the people working one must be ambitious, practical, have your ear to the ground, forgiving and be empathetic. The hospitals aim was to bring affordable cost and provide high quality and improved speed for treatment, cost was taken care of, quality and speed are in progress.

As an administrator, ensuring workplace safety is something I take to heart every day. It's not just about policies and protocols—it's about creating a space where every staff member feels protected and valued. I've seen firsthand how a safe environment allows people to focus on what really matters: providing the best care for our patients.

For me, it's about being approachable, listening to concerns, and acting quickly to address any issues, whether it's physical safety, emotional well-being, or handling unexpected crises.



HARNESSING THE POWER OF ART IN NEUROCRITICAL CARE

Dr. Mathangi D.C,
Professor & HOD of Mind Body Medicine & Lifestyle Sciences, SRMC, Chennai

Patients in neurocritical care often face communication difficulties, emotional distress, and psychological trauma. Art therapy provides a non-verbal outlet to process these emotions and regain a sense of control. Artistic activities, such as drawing or music, can stimulate brain regions involved in cognitive recovery. Evidence suggests that these activities activate the brain's Default Mode Network (DMN), promoting creativity, self-reflection, and emotional regulation. Moreover, neuroplasticity—the brain's ability to reorganize and form new connections—is enhanced through art therapy, facilitating motor skills recovery and memory improvement.

"ART IS NOT A LUXURY, BUT A MEANS OF SURVIVAL." - THERESA SIMMONDS

Types of Art Therapy

Visual Art Therapy:

Activities like drawing or painting help patients express emotions that are difficult to verbalize and promote fine motor skill recovery.

Music Therapy:

Music enhances mood, reduces anxiety, and aids cognitive function, especially in stroke and TBI recovery. It can also support language recovery in patients with aphasia.

Dance and Movement Therapy:

For those retaining mobility, movement aids physical rehabilitation and emotional expression. It also increases brain-derived neurotrophic factor (BDNF), which supports neuroplasticity.

Digital Art Therapy:

Digital platforms enable patients with mobility restrictions to engage in creative expression, offering an accessible therapeutic option.

MECHANISMS OF ART THERAPY IN RECOVERY

Art therapy activates multiple brain pathways, aiding motor and cognitive rehabilitation. Repetitive creative activities stimulate synaptic plasticity, helping rewire neural connections. These activities can support both emotional and cognitive recovery, particularly in trauma survivors, by providing a safe, non-invasive method for processing emotional distress.

BENEFITS OF ART THERAPY

1. **Emotional Healing:** Art therapy offers a safe space for emotional expression, reducing stress and anxiety during hospital stays.
2. **Cognitive and Motor Recovery:** Artistic activities stimulate cognitive and motor pathways, aiding recovery from neurological injuries.
3. **Improved Engagement:** The creative process enhances patients' sense of purpose and self-esteem.
4. **Support for Caregivers:** Art therapy can also benefit caregivers, helping them manage emotional stress.

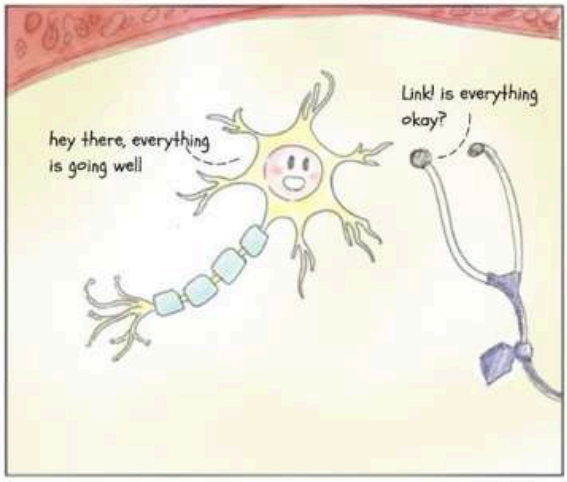
As neurocritical care adopts a more holistic, patient-centered approach, incorporating art therapy offers significant benefits in emotional and cognitive recovery.

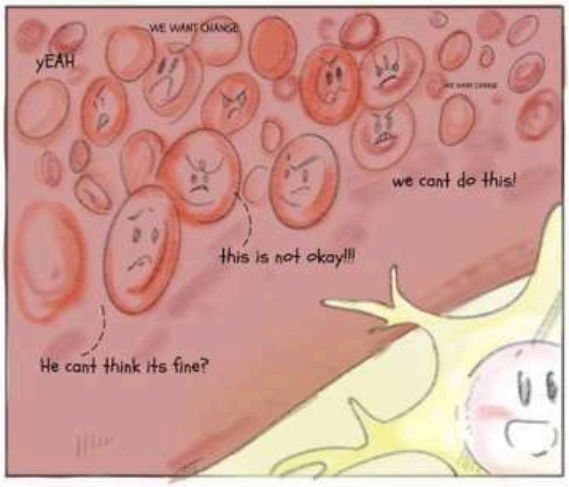
By enhancing neuroplasticity and providing a channel for emotional expression, art therapy plays a critical role in improving patient outcomes and quality of life.

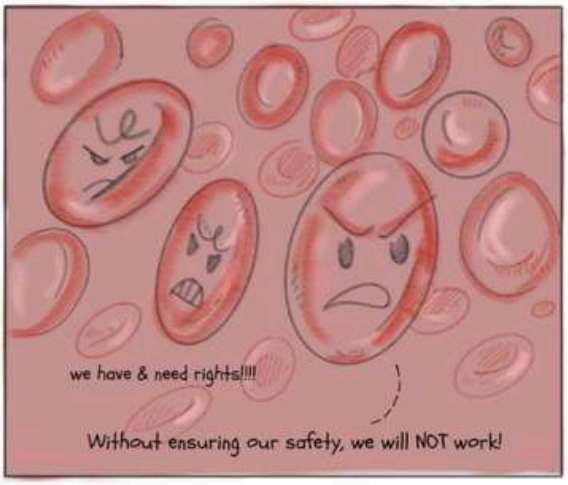
THYNK UNLIMITED - THE CARTOON CORNER

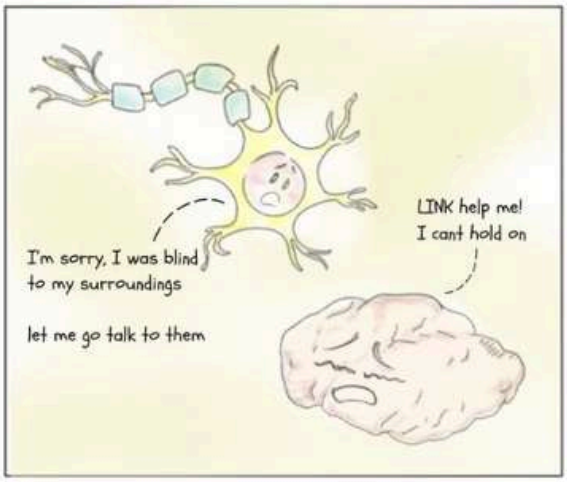
LINK LETTERS

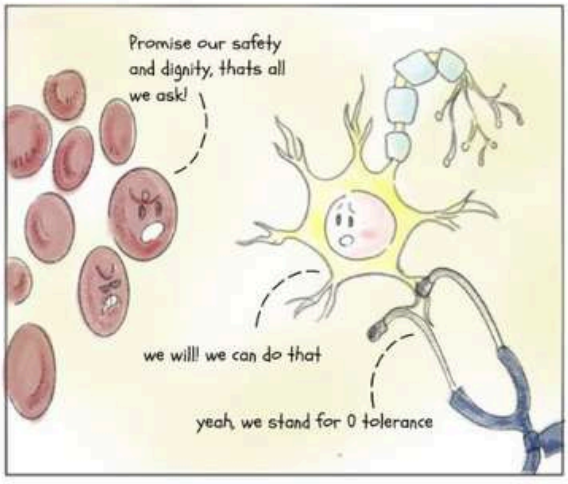
Story by Dr.Mathangi
Art @byuthra

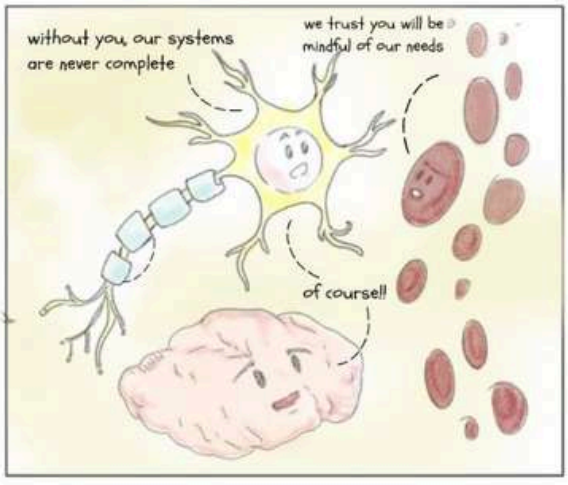












Uthra S Ganesh
B.Des (NIFT), Digital Artist

NCSI 2024
CHENNAI

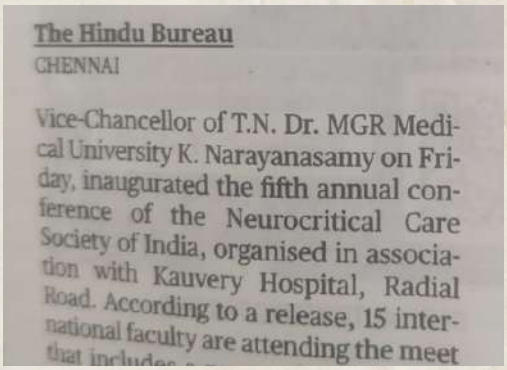
LOOKING BACK!

LEADING FORWARD

Thalaivaa

PREVIEW

NCSI 2024



The Hindu Bureau
CHENNAI

Vice-Chancellor of T.N. Dr. MGR Medical University K. Narayanasamy on Friday, inaugurated the fifth annual conference of the Neurocritical Care Society of India, organised in association with Kauvery Hospital, Radial Road. According to a release, 15 international faculty are attending the meet

The 5th Annual Conference of the Neurocritical Care Society of India (NCSI), held from August 30 to September 1, 2024, at Sheraton Grand, Mahabalipuram, marked a significant milestone in the advancement of neurocritical care in India.

Under the theme "Emerging Trends, Expanding Scopes, Changing Perspectives," the conference brought together a diverse group of 340 delegates and 180 speakers, 60% of whom were young faculty members, highlighting the society's commitment to fostering young talent and leadership in neurocritical care

PRE CONFERENCE WORKSHOPS

The curtain raiser

Neuro Radiology

Multimodal Neuro Monitoring

Trans Cranial Doppler

DAY 1

The conference was inaugurated by esteemed dignitaries, including Dr. K. Narayanaswamy (Vice-Chancellor, Dr. MGR Medical University), Dr. V. Sridhar (Director, Institute of Neuroscience, Kauvery Hospital, Chennai), and Dr. V. Ponniah (Organizing Secretary). They were joined by Dr. Prasanna Bidkar (Organizing Chairman) and Dr. Sindhupriya (Joint Secretary), along with the NCSI secretariat.

A significant highlight of this year's event was the conferring of the first-ever Fellow of Neurocritical Care (FNCC-NCSI)fellowship, which recognizes exemplary contributions in clinical practice, academic excellence, and leadership in the field of neurocritical care. Dr. V. Ponniah and Dr. Saurabh were honored with this prestigious fellowship,

The morning sessions kicked off with discussions on critical re-evaluations in neurocritical care. Topics included optimizing head positioning, the role of hyperventilation in traumatic brain injury, and the impact of PEEP on ICP and brain tissue oxygenation. Speakers presented evolving insights on cerebral oxygenation strategies, the benefits of personalized fluid management, and the role of biomarkers in predicting outcomes in brain injury. The session on stroke management emphasized individualizing antithrombotic therapy and innovative approaches for neurovascular disease in pregnant patients.

The afternoon sessions featured engaging TED Talks on topics like extubation dilemmas, the use of TEG platelet mapping in neurocritical care, and practical applications of pupillometry. Attendees also participated in the Brain Battles, debating key clinical dilemmas such as the choice of fluids in TBI and second-line treatments for status epilepticus. The Expert Exchange panel discussed the complexities of managing traumatic brain injury in diverse settings. The final session, How I Do It, provided video demonstrations on diaphragm, brain, and lung ultrasound techniques, offering practical takeaways for clinical practice.

ORATION

Prof. G.S. Umamaheswar Rao Oration, delivered by Dr. Claude Hemphill, who presented an inspiring talk titled "Curing Coma: A Grand Challenge for Neurocritical Care Worldwide."

DAY 2

Day 2 focused on revisiting controversies in neurocritical care. Discussions began with the benefits and risks of using lumbar CSF drains in subarachnoid hemorrhage (SAH) and the current relevance of fiberoptic bronchoscope-guided intubation in cervical spine injuries. The role of corticosteroids in traumatic spinal cord injuries was debated, followed by a session on managing hemorrhage in cerebral venous thrombosis. The Situationships session addressed HFNO in neurocritical care, management strategies for refractory vasoplegic shock, and the utility of ketamine in refractory status epilepticus. TED Talks on practical topics like hyponatremia and delirium management rounded off the morning discussions.

The NCS Panel featured expert-led sessions on pivotal topics in neurocritical care. Dr. Chitra V spoke on leveraging technology to enhance outcomes in hemorrhagic stroke management, focusing on advanced imaging and telemedicine. Dr. Kapil Zirpe discussed the value of multimodal monitoring in traumatic brain injury (TBI) to provide a comprehensive view of brain function. Dr. Lori Shutter explained autoregulation principles in severe TBI, while Dr. Paul Vespa explored brain injury management post-cardiac arrest, advocating for a multi-modal approach, including targeted temperature management and continuous EEG monitoring.

The afternoon sessions continued with Navigating Neuro Nuances, where speakers addressed new insights in ARDS management specific to neurocritical patients, challenges in glycemic control during acute brain injuries, and nutrition strategies in neurocritical care. TED Talks on advanced therapeutic approaches like extracorporeal CO_2 removal and tier 3 ICP management were well-received. The day concluded with Brain Battles, featuring engaging debates on controversial topics like the myth of contrast-induced nephropathy and the role of prophylactic antibiotics in preventing ventilator-associated pneumonia (VAP) in TBI patients. The Expert Exchange on ethical dilemmas in end-of-life care and practical video sessions rounded off the day.

DAY 3

Day 3 began with the Neuro Necessities: Flow, Flush, and Flip session, focusing on fluid management in neurocritical care. Talks covered assessing fluid responsiveness, diuretic use in critically ill patients, and the brain-gut connection. The session ended with discussions on the urgent reversal of anticoagulation in the neurocritical setting. This was followed by the Tech in Neurocare session, where speakers highlighted the value of evoked potentials, unique considerations in pediatric neurocritical care, the impact of sedative choices on brain-lung outcomes, and the role of AI in neurocritical care.

The NeuroComplexities and Neuro Tactics sessions delved into complex clinical scenarios, such as diagnosing sepsis in neurocritical care, managing non-convulsive status epilepticus (NCSE), and exploring strategies beyond vasospasm for delayed cerebral ischemia (DCI). Discussions on optimizing cerebral perfusion pressure (CPP) and managing prolonged autonomic instability introduced new approaches for better patient outcomes. Speakers also addressed challenges like managing C. diff colitis in neurocritical patients and enhancing outreach and education. The TED Talks provided insights into early mobilization, myths in neuro ICUs, tele-ICU effectiveness, hyperosmolar therapy management, the significance of base excess in critical care, and the optimal approach to managing posterior reversible encephalopathy syndrome (PRES).

The day concluded with the valedictory ceremony, where the Presidential Appreciation Award was presented to NCSI members for their contributions. Winners of the quiz and research presentations were also felicitated. The handover to Dr. Ramesh as the next President marked the close of the conference, with an inspiring address highlighting the collective achievements and the promising future of neurocritical care in India.

NCSI WINNERS

Thalaivaa: The conference's mascot

"Thalaivaa" (Leader)—leadership in neurocritical care.

Thalaivaa embodied the ideals of excellence, agility, and vision in leadership, emphasizing the importance of effective leadership in clinical practice, research, and education.

Rewind NCSI 2024

UNTIL NEXT TIME

FINANCIAL GYAN FOR The Neurointensivist

DR. DHRITIMAN . C
ASSOCIATE PROFESSOR,
NIMHANS, BANGALORE

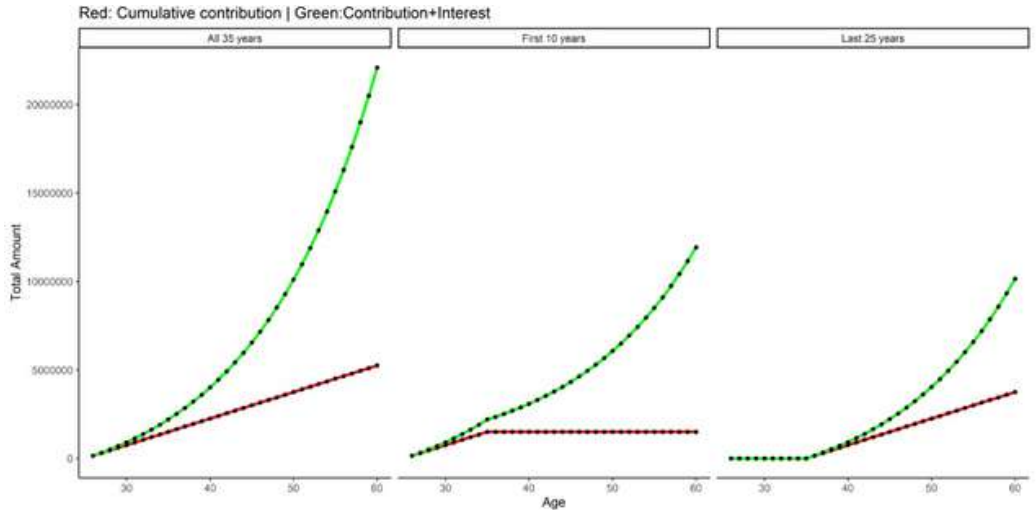
In the previous article, we discussed the barest of bones construction of a portfolio of diversified assets. If you recall, the largest portion of the portfolio consisted of fixed income assets. This article will be used to focus on that asset class in a greater depth.

Before we start...

Before we start the actual instruments for investment, I want to focus on a secondary school topic, the magnitude of which eludes us as adults. That topic is the “compounding”. Compounding is the phenomenon of exponential increase in capital when previous year’s interest gets added to the principle capital for calculation of the current year’s interest.
The phenomenon is often described as “magic”, because our human minds psychologically do not comprehend exponential rates, but rather are more comfortable with linear rates.

There are a variety of abstractions that can be made from this phenomenon, but the most relevant one is the relative importance of time. The phenomenon of exponentiality is extremely sensitive to time, with initial years having a relatively slow/linear growth rate and the rate of change picking up speed only after the first 15 years or so.

To illustrate this effect, let's look at the graph below.



This is a graph of you investing 1.5 lakhs each year, compounding at a rate of 7%.

The red line in each panel shows the cumulative amount you contributed, and the green line shows the accumulated amount (contribution+interest).
The panels show 3 different scenarios: You start investment at age of 26 and keep investing till you're 60 ("All 35 years"), start investing at 26 and only invest till 36 ("First 10 years") and you start investing at 36 and keep investing till 60 ("Last 25 years").

The important learning is to look at the last two panels and notice that in the "First 10 years" scenario, your contribution was only 15 lakhs in total, with final amount at 60 being 1.2 Crores; while in the "Last 25 years" scenario, you would have had to contribute close to 37 lakhs and you end up with 1.02 Crores at 60 years of age.

The most optimal is to keep investing till 60, with close to 52 lakhs of your invested capital and you end up with 2.22 Crores at the end.

Fixed income instruments:

The name of this asset class suggests the constituents of the same, i.e. a class of instrument which once bought provides you a semblance of fixed income for the duration of your holding of the instrument. There are many flavours that such instruments come in, each with their own rewards and risks (perceptible or not). Let's look at a simplified classification of this gigantic body of financial assets which commands the largest wealth world-wide.

1. Bank term deposits:

Banks require to keep a cash base which is used to create loans for people/institutions wanting the avail the same. The loans created are usually much larger than the cash base available with the bank (a concept called leverage ratio, which will be discussed elsewhere). Sometimes, when the demand for loans is high, the bank may not have enough cash base (including your savings accounts) to serve the loans. During such phases, banks can avail loans from RBI (at a certain interest called the "repo rate") or can call for deposits of money from their clients (you or me) for a fixed duration at a fixed interest rate which is attractive enough for us to part with our hard earned money.

Such a deposit is commonly known as a "fixed deposit". Since the return of principle and interest to the client is non-negotiable and risk to client is low, the interest will be just enough to overcome their competitive banks' fixed deposit rates. Usually, these returns (which are taxed as "other income" at slab rates) are not very competitive and actually lose to inflation on a tax adjusted basis.

This form of investment (due to its relative safety and straight-forward nature) is extremely common in general public. A similar flavour is "recurring deposit" but returns are just as bad.

An important thing to note is that one will find many of the smaller banks' fixed deposit rates to be higher than the larger well-established banks'. This is due to the relative risk associated with smaller banks and higher risk needs a higher reward payout. However, if one's FD is smaller than 5 lakhs, then one can opt for a riskier bank due to the insurance coverage of DICGC (Deposit Insurance and Credit Guarantee Corporation), which is governed by the RBI. If the amount to be invested in more than 5 lakhs, the author recommends breaking the amount to 5 lakh chunks and availing FD facility of different banks (each separate bank has separate insurance coverage).

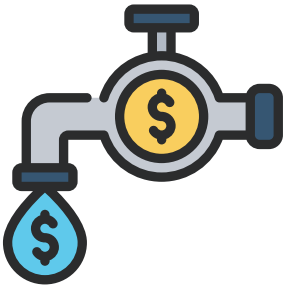
2. Money market funds:

Sometimes, the same banks or other financial institutions have requirement for a ultra-short term loan to tide over short term deficits. These institutions can then approach a large pool of fluid money which is commanded by a set of funds called money market funds. These funds aggregate cash from investors into a large pool and dole out overnight or ultra-short loans (up to 15 days to a month tenure). The funds charge a small interest as per the duration of the loan (which annualized will be just higher than the repo rate). The interest returns from these loans are then returned to the investors over a short time frame (usually days to weeks). Since the repo-rate and the demand for such loans is very fluid, the returns are not fixed, but usually beat the repo rate. Such funds are also termed “Liquid funds”.

The taxation of such funds is a bit wonky. The funds that operate on “a” or “b” basis, consider the money returned to your account and get taxed on an “other income” basis. The “c” option is best when considering taxation, as these get taxed on a “capital gains” basis.

The easiest and the most flexible way to invest in these funds is via a demat account into a specific fund with the symbol “LIQUIDCASE” run by Zerodha AMC. The author of this article uses the same, and hence is suggested. Example of “a” type is “LIQUIDETF”, managed by DSP AMC, and that of “b” type is “LIQUIDBEES” run by Nippon AMC.

If not opting for a demat account, direct purchase of fund units from AMCs or through mutual fund distribution platforms can be done.



The information on other fixed income schemes will be discussed in the upcoming newsletter.

Investment in the liquid funds provide you with “units” of these funds which can be sold back to the fund at any time to get your investment back. These funds come in various flavours:

a. Return the interest to your bank account on a regular basis.

b. Add more units of the fund to your account as per the returns accrued.

c. Increase the price of the units as the returns get aggregated over time.

MEDICO BECOMES A BLOGGER: A Match Made in Content Heaven!

DR. SHARATH
CONSULTANT NEUROANESTHESIA &
NEUROCRITICAL CARE
ASTER,
BANGALORE

Anaesthesiologists and Intensivists are the forces that help smoothen the processes of the hospital. They identify conditions in pre operative patients, help the patients sail smoothly through surgery and are crucial in stabilizing critical patients. However, they have always worked in the background. Limited by their role of intermittently interacting with the patient.

The onset of Covid changed this perception a little because it was primarily the anaesthesiologists who were manning the ICUs the world over.

Owing to the lack of visibility and lack of interaction with the general public, not much is known about the role anaesthesiologists play in healthcare.

I am looking to change this perception. I wanted anesthesiologists to talk, describe their profession, interact with other medics and non medicos.

Letting the world know about the intensity of our profession, the amount of care we afford the patient through various modalities, our additional role in being called for airway emergencies is crucial to establishing our place in medical institutions and corporate hospitals. Enormous progress has occurred in the field of Anaesthesia and intensive care during the past few years, and I wished to capture the journey through the voices of Anaesthetists and intensivison my blog.

I began my blog Perspectives on Anaesthesia in 2019, but I had to pause it for a few years due to my Neuroanaesthesia residency. I began interviewing anaesthesiologists earlier this year and have interviewed around 70 anaesthesiologists with prospects for many more who wish to be interviewed. I was glad to receive positive reviews for the blog with my peers telling me that their friends and family have a newfound appreciation for our specialty. Telling the layperson about our profession will help them recognize that we are the ones that keep the ship afloat while the captain steers it!I am looking to change this perception. I wanted anesthesiologists to talk, describe their profession, interact with other medics and non medicos.

Check out my blog on PERSPECTIVES ON ANAESTHESIA.
https:/./.perspectivesonanaesthesia.word-press.com/.

Indulge in the

NEUROCRYPTICAL WORD SEARCH

DR. KANCHAN. B
CHAITANYA HOSPITAL,
BANGALORE

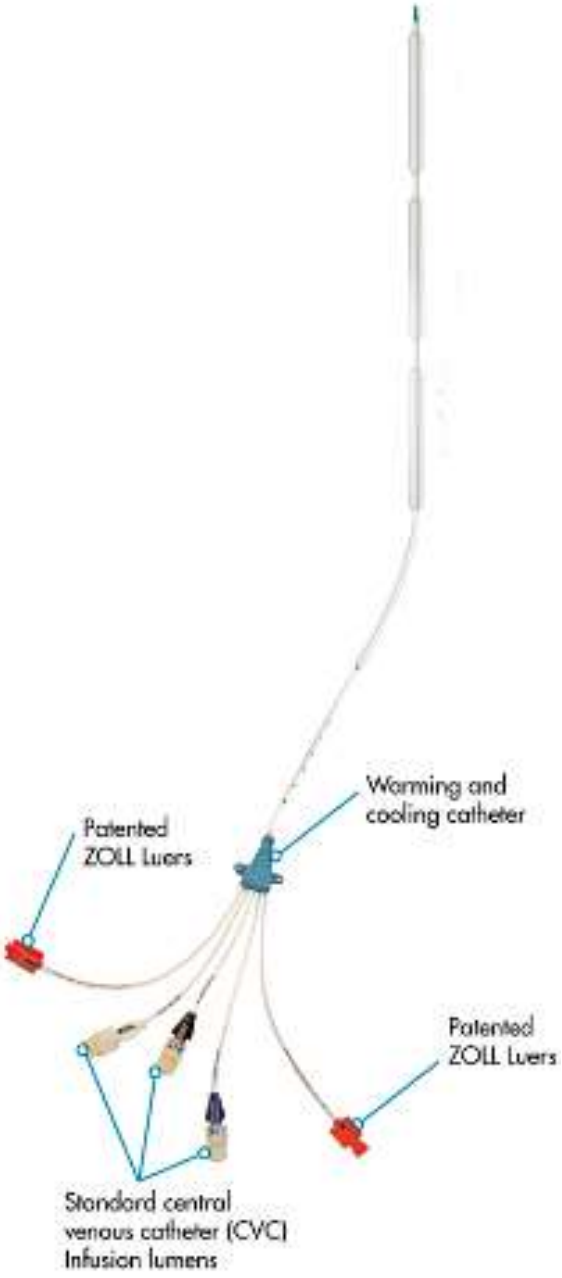
Identify and find the words in the grid! Most are newer drugs and therapies relevant to neuroanesthesia and neurocritical care. Print it out and enjoy it over a cup of tea for the best solving experience!

H S A B O M H E P N L M E M
T H T O N A O O E U I D O N
S S O L T O E N T X O T I M
A H P L A T E N A X E D N A
F S I E C C C T A R A F U L
I Y R C R P O B L R S O S P
N D A U O A A S U E W E I I
A I M L L N M C A N M A N D
M V A I I T I P R M E A E S
I E T Z M Z C S A S I O R I
D L E U U W U I C N G D S R
E E F M S E S A L P E T E R
D L A A A A S R I L T L N Y
R B I B E N S D V H T E T K

1 a novel antisense oligonucleotide that targets AChE mRNA and in effect reduces the action of AChE (myasthenia gravis)
2 FK506, is a macrolide antibiotic with immunosuppressive properties
3 ample opportunity to use it in partial onset or primary generalised seizures
4 direct factor Xa inhibitor administered once a day orally
5 approved by the FDA in May 2018 to reverse apixaban and rivaroxaban
6 produces slow inactivation of neuronal sodium channels. Approved for partial onset seizures in adults
7 anti-Parkinson's drug, reversible selective monoamine oxidase-B inhibitor and through modulation of glutamate release
8 approved for AChR-positive GMG, risk of Neisseria meningitis
9 yet to gain enough experience with its use as a thrombolytic agent in acute ischemic stroke
10 melatonin agonist tried for icu delirium and sleep disturbances, also in TBI
11 Small moleculesplicing modifier, Phase 3 on-going, SMA type 1 and some SMA type 2 as well
12 approval by FDA (Dec. 2016) and EMA (Jul. 2017) for all subtypes of SMA, Antisense-oligonucleotide
13 the first gene therapy for duchenne muscular dystrophy, FDA approved in 2023
14 praxbind
15 anti epileptic drug with weight loss properties

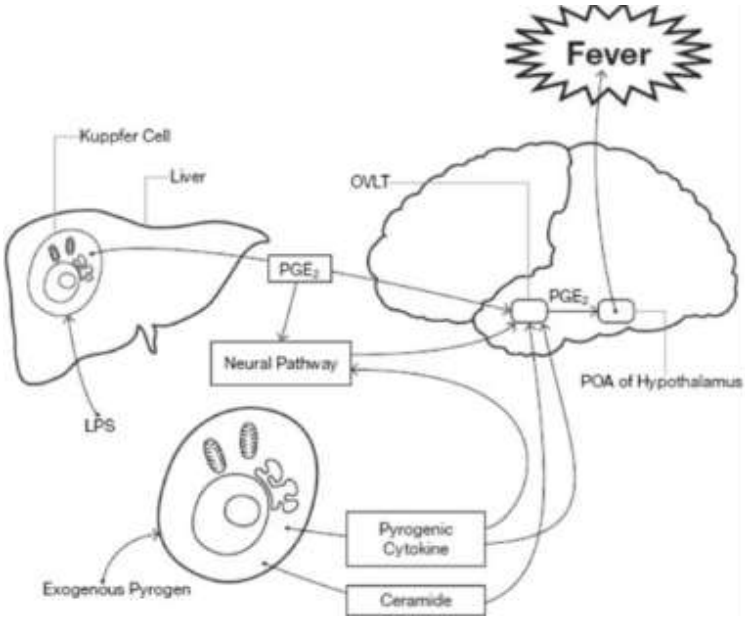
HOW TO CHILL (THE PATIENT) LIKE A PRO!

DR JANANI. R
RESIDENT, NIMHANS,
BANGALORE



Fever (>37.5°C) and extreme hyperpyrexia (≥41.1°C) are common in neuro intensive care unit (NICU) patients, occurring in about two-thirds of cases. Treating fever with antibiotics can increase costs and lead to resistance in non-infectious cases. Identifying the underlying cause is crucial for reducing the impact on brain recovery and shortening NICU stays.

Brain injury can disrupt thermoregulatory mechanisms, leading to fever through inflammatory processes. In response, the endogenous pyrogens release PGE2, which increases the set point in hypothalamus, causing increase in core body temperature.



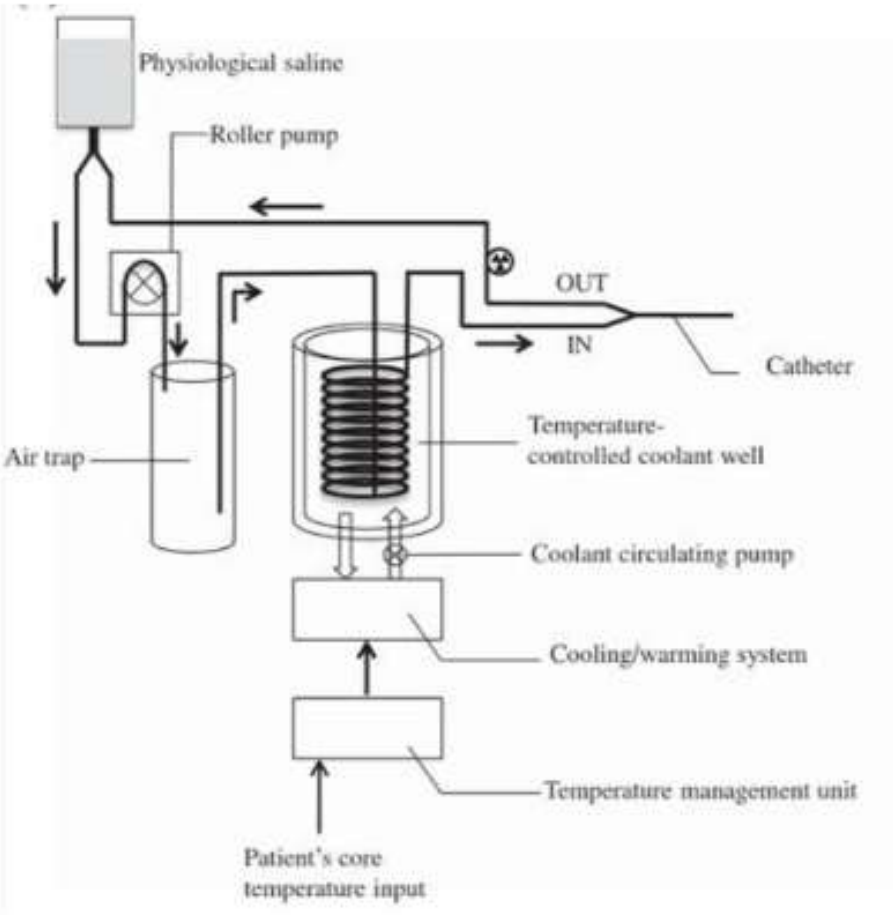
Few common differential diagnosis include:

Infectious cause	Endocrine cause	Inflammatory cause	Neurology cause	Drug fever	Central fever
VAP UTI SSI SIRS Meningitis Encephalitis CLABSI	Pheochromo-cytoma Thyroid storm Adrenal insufficiency	Post-transfusion fever Aspiration pneumonitis Thrombo-phlebitis	Paroxysmal sympathetic hyperactivity Increased ICP	Neuroleptic syndrome Malignant hyperthermia	Subarachnoid hemorrhage (50-65%) Traumatic brain injury (4-40%) Intracerebral hemorrhage (31%) Acute ischemic stroke (50%)

While infection is a common source of fever in patients with significant neurologic illness, the fever may also be exacerbated by the underlying brain injury, thus forming a vicious cycle. Central fever, is a diagnosis of exclusion, leading to misdiagnosis of antibiotic failure or resistance. These patients have relative bradycardia, absent perspiration & resistance to antipyretics.

When fever is resistant to conventional pharmacological and non pharmacological methods, or if the conventional methods are likely to cause harm, an intravascular cooling device (IVCD) could save the patient.

Cold saline infusion causes hypervolumia and pulmonary edema. Surface cooling methods can cause peripheral vasoconstriction and skin damage. Moreover, conventional methods have no control over the temperature to adjust or maintain precisely.

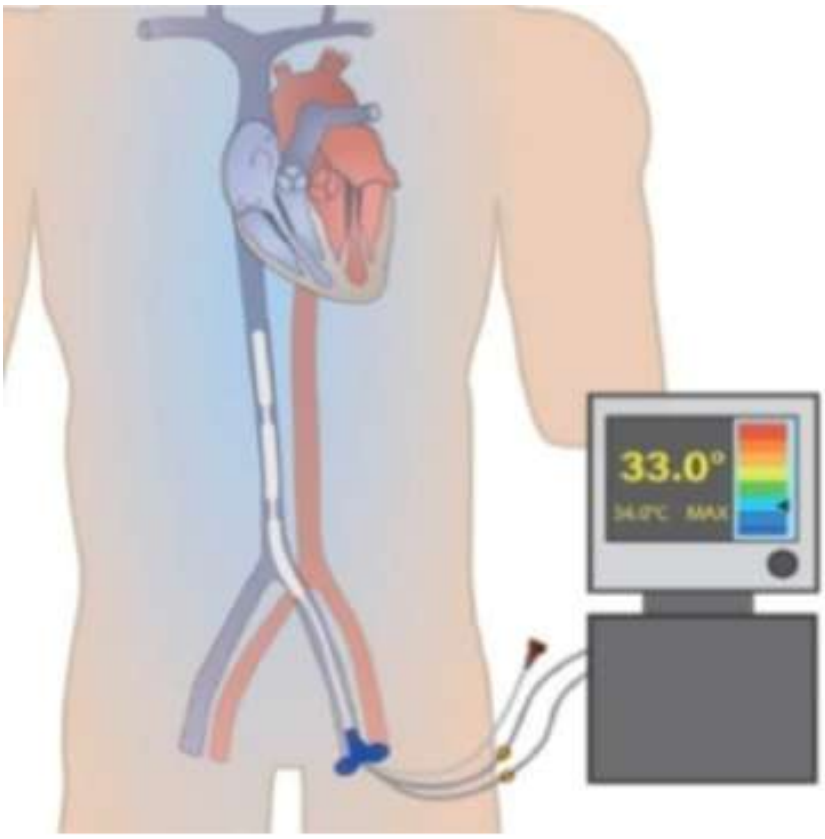


An intravascular heat exchange heparin coated catheter kit is inserted into either internal jugular/subclavian vein in the upper limb or femoral vein in lower limb. It is 9.3F OD and length varies from 20 cm to 45 cm depending on the type. This catheter is hydrophilic, MR compatible and radioopaque, with no natural rubber latex. The 3 lumens in the middle has central venous infusion facilities. The 2 lumens at the ends are connected to the IVCD. The device has a temperature controlled coolant which can warm up or cool down the saline around it. This warm or cold saline circulates through the catheter in a closed loop, quickly warming or cooling the patient, respectively, as the venous blood passes over the balloons, without infusing saline into the patient. This device also has an effective temperature feedback system that allows precise control of temperature, which helps in maintaining the target temperature for a long time. The dwell time of the catheter is 4 days; a few types can dwell upto 7 days.

While treating fever aggressively, hypothermia can cause arrhythmias, dyselectrolytemia, delayed wound healing, delayed drug clearance, coagulopathy and compensatory thermoregulatory mechanisms-related complications like shivering.

Using IVCD minimized fluid intake and reduced the incidence of shivering and provided rapid achievement of target temperature and maintained it effectively, with fewer complications compared to surface cooling methods. Complications such as venous thromboembolism has been reported in rarely.

IVCD is an effective tool for managing fever in NICU patients, offering a single-method solution with fewer complications and easier maintenance compared to traditional methods. The same device can also serve to rewarm the patient, especially in post-cardiac arrest patients on Target Temperature Management.



ISSUE NO 6

NCSI

EYE SEE YOU.

ROLE OF OPHTHALMOLOGIST IN NEURO INTENSIVE CARE

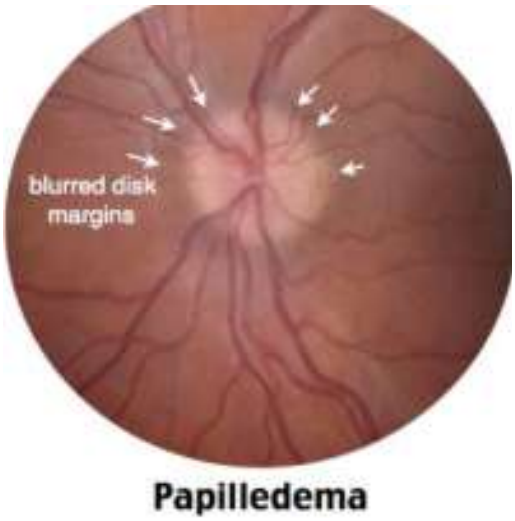
DR. GEETHANJALI
CONSULTANT OPHTHALMOLOGIST ,
CENTRE FOR VISION & EYE SURGERY,
CHENNAI

SEPTEMBER 2024

Ophthalmologist plays a pivotal role in a neuro intensive care unit. A plethora of ophthalmology issues do arise in a Neuro ICU setting. Conditions ranging from ocular surface diseases, exposure keratopathy, trauma, infections, visual loss, etc constitute a few of them.

Ocular surface diseases are common in NICU, due to factors such as inadequate lid closure, mechanical ventilation, longer duration of stay and associated neuro critical condition. Sedation and muscle paralysis cause poor blink reflex and loss of eyelid muscle tone, whereas fluid imbalance and positive pressure ventilation lead to chemosis. Ocular surface diseases are more common in intensive care units, because of a compromise in the blink mechanism, inadequate lid closure. Educating the nurses in the neuro ICU regarding adequate lubrication of the eyes is essential. Checking for lid closure, to tape the lids correctly in cases of exposure keratopathy , is crucial.

Patients getting admitted after road traffic accidents invariably have abrasions around the lids, face , periorbital echymosis, lid edema, lid lacerations, subconjunctival haemorrhage and sometimes conjunctival chemosis. It also becomes essential to keep an eye on the pupils to rule out traumatic optic neuropathy and start Intravenous steroids, whenever neccessary after clearance from the neuro intensivists. Careful examination of the conjunctiva to rule out any conjunctival tears also needs to be done. Dilated fundus examination to rule out commotio retinae, traumatic retinal tears, retinal detachment, vitreous haemorrhage, optic nerve avulsion, also needs to be assessed.



Papilledema

Careful assessment of the pupils is vital in patients in neuro critical care. Anisocoria is difference in 1 mm in size between the size of both the pupils. Pupillary areflexia (pupillary non reactivity) is absence of visible pupil constriction in any response to light stimulation. Anisocoria followed by pupillary areflexia are the commonest pupillary abnormalities in a ICU setting. In a unilateral dilated pupils in a divergent eye, with ptosis of lid , third nerve palsy needs to be ruled out. Dilated non reactive pupil post trauma, could be a patient with traumatic mydriasis. Adie s pupil could also present after trauma.

Occasionally there are patients presenting with diplopia in the NICU. A meticulous assessment of the extra ocular movements to rule out cranial nerve palsies is vital, it s especially important to rule out 3rd,4th, 6 th nerve palsies, internuclear ophthalmoplegia , eamongst many causes.

In patients with meningitis admitted in Neuro ICU, it becomes essential to rule out disc edema, and other clinical features related to the etiology of the meningitis. In tubercular meningitis, miliary tubercles need to be looked for in fundus, and tubercular choroiditis lesions also need to be ruled out.

In patients with sepsis, dilated fundus examination to rule out any intraocular foci of infection is done. Endophthalmitis needs to be ruled out. Papilledema is seen in the setting of raised intracranial pressure eg;brain tumours.

In patients with mild TBI, there could be abnormalities relating to saccades, pursuit, convergence and accommodation. In moderate to severe traumatic brain injury, optic neuropathy, cranial nerve palsies could occur.

Ophthalmologist role in Neuro ICU is of vital significance and is involved in many decision makings.

WHAT'S UP

Original Investigation

September 23, 2024

Thrombectomy for Stroke With Large Infarct on Noncontrast CT

The TESLA Randomized Clinical Trial

The Writing Committee for the TESLA Investigators; for the TESLA Investigators

JAMA. Published online September 23, 2024. doi:10.1001/jama.2024.13933

Objective To evaluate the effect of thrombectomy in patients with a large infarct on a noncontrast CT scan within 24 hours of onset.

Design, Setting, and Participants Open-label, blinded-end point, bayesian-adaptive randomized trial with interim analyses for early stopping (futility or success) or population enrichment, which was conducted at 47 US academic and community-based stroke thrombectomy centers. Three hundred patients presenting within 24 hours with anterior-circulation, large-vessel occlusion and large infarct on noncontrast CT scan, with Alberta Stroke Program Early CT Scores of 2 to 5, were randomized to undergo thrombectomy or usual care. Enrollment occurred July 16, 2019 to October 17, 2022; final follow-up, January 25, 2023.

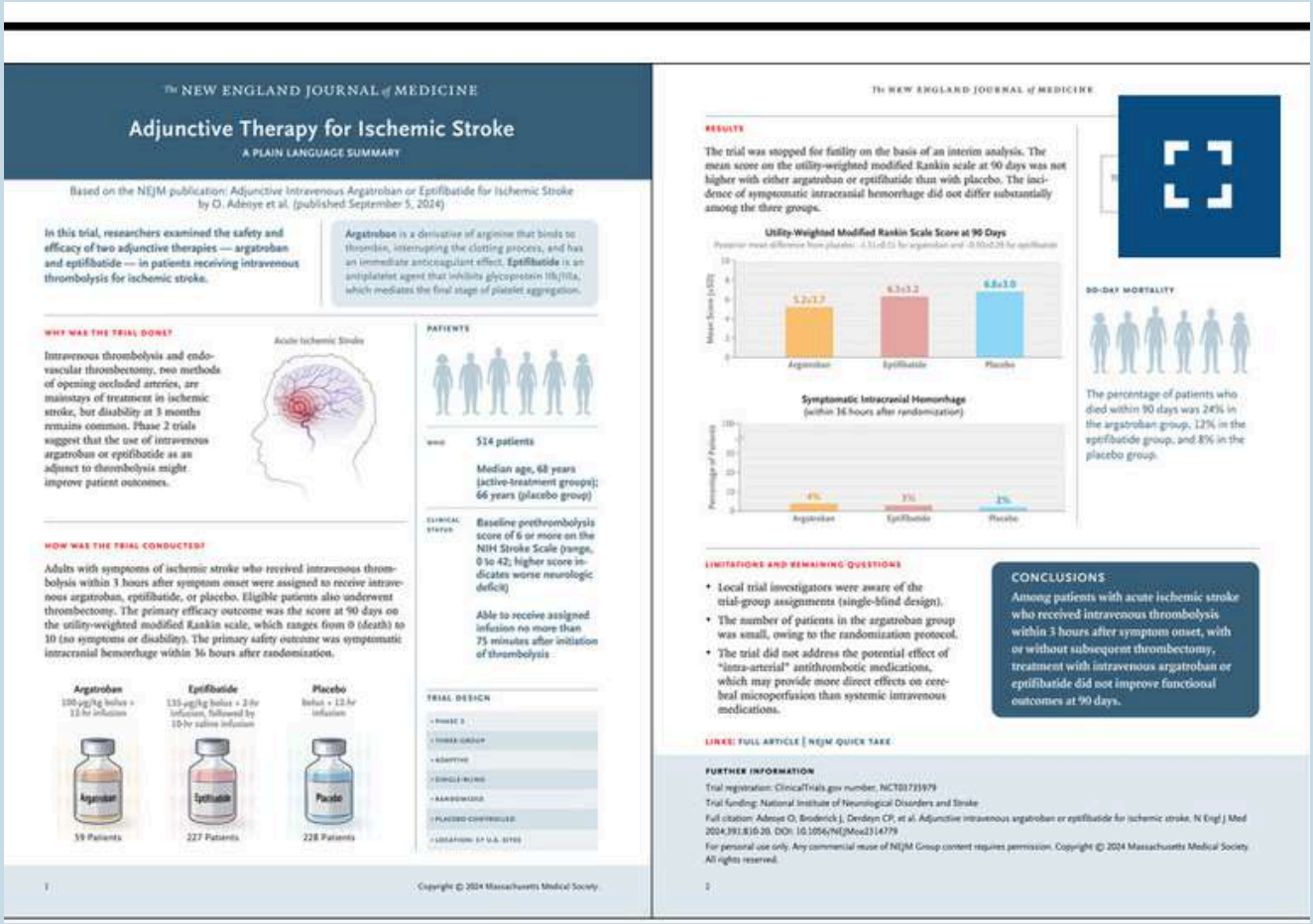
Intervention The intervention patients (n=152) underwent endovascular treatment using standard thrombectomy devices and usual medical care. Control patients (n=148) underwent usual medical care alone.

Main Outcomes and Measures The primary efficacy end point was improvement in 90-day functional outcome measured using mean utility-weighted modified Rankin Scale (UW-mRS) scores (range, 0 [death or severe disability] to 10 [no symptoms]; minimum clinically important difference, 0.3). A bayesian model determined the posterior probability that the intervention would be superior to usual care; statistical significance was a 1-sided posterior probability of .975 or more. The primary adverse event end point was 90-day mortality; secondary adverse event end points included symptomatic intracranial hemorrhage and radiographic intracranial hemorrhage.

Results The trial enrolled 300 patients (152 intervention, 148 control; 138 females [46%]; median age, 67 years), without early stopping or enrichment; 297 patients completed the 90-day follow-up. The mean (SD) 90-day UW-mRS score was 2.93 (3.39) for the intervention group vs 2.27 (2.98) for the control group with an adjusted difference of 0.63 (95% credible interval [CrI], −0.09 to 1.34; posterior probability for superiority of thrombectomy, .96). The 90-day mortality was similar between groups: 35.3% (53 of 150) for the intervention group vs 33.3% (49 of 147) for the control group. Six of 151 patients (4.0%) in the intervention group and 2 of 149 (1.3%) in the control group experienced 24-hour symptomatic intracranial hemorrhage. Fourteen patients of 148 (9.5%) in the intervention group vs 4 of 146 (2.7%) in the control group experienced parenchymal hematoma type 1 hemorrhages; 14 (9.5%) in the intervention group vs 5 (3.4%) in the control group experienced parenchymal hematoma type 2 hemorrhages; and 24 (16.2%) in the intervention group vs 9 (6.2%) in the control group experienced subarachnoid hemorrhages.

Conclusions and Relevance Among patients with a large infarct on noncontrast CT within 24 hours, thrombectomy did not demonstrate improvement in functional outcomes. But the width of the credible interval around the effect estimate includes the possibility of both no important effect and a clinically relevant benefit, so the potential role of thrombectomy with this imaging approach and time window will likely require additional study.

WHAT'S UP



The NEW ENGLAND JOURNAL of MEDICINE

Adjunctive Therapy for Ischemic Stroke

A PLAIN LANGUAGE SUMMARY

Based on the NEJM publication: Adjunctive Intravenous Argatroban or Eptifibatide for Ischemic Stroke by O. Adeoye et al. (published September 5, 2024)

In this trial, researchers examined the safety and efficacy of two adjunctive therapies — argatroban and eptifibatide — in patients receiving intravenous thrombolysis for ischemic stroke.

Argatroban is a derivative of arginine that binds to thrombin, interrupting the clotting process, and has an immediate anticoagulant effect. **Eptifibatide** is an antiplatelet agent that inhibits glycoprotein IIb/IIIa, which mediates the final stage of platelet aggregation.

WHY WAS THE TRIAL DONE?

Intravenous thrombolysis and endovascular thrombectomy, two methods of opening occluded arteries, are mainstays of treatment in ischemic stroke, but disability at 3 months remains common. Phase 2 trials suggest that the use of intravenous argatroban or eptifibatide as an adjunct to thrombolysis might improve patient outcomes.

Acute Ischemic Stroke

HOW WAS THE TRIAL CONDUCTED?

Adults with symptoms of ischemic stroke who received intravenous thrombolysis within 3 hours after symptom onset were assigned to receive intravenous argatroban, eptifibatide, or placebo. Eligible patients also underwent thrombectomy. The primary efficacy outcome was the score at 90 days on the utility-weighted modified Rankin scale, which ranges from 0 (death) to 10 (no symptoms or disability). The primary safety outcome was symptomatic intracranial hemorrhage within 36 hours after randomization.

Argatroban
100 μg/kg bolus + 12-hr infusion
59 Patients

Eptifibatide
135 μg/kg bolus + 2-hr infusion, followed by 10-hr saline infusion
227 Patients

Placebo
Bolus + 12-hr infusion
228 Patients

PATIENTS

WHO: 514 patients

Median age, 68 years (active-treatment groups); 66 years (placebo group)

CLINICAL STATUS: Baseline prethrombolysis score of 6 or more on the NIH Stroke Scale (range, 0 to 42; higher score indicates worse neurologic deficit)

Able to receive assigned infusion no more than 75 minutes after initiation of thrombolysis

TRIAL DESIGN

- PHASE 3
- THREE GROUP
- ADAPTIVE
- DOUBLE-BLIND
- RANDOMIZED
- PLACEBO-CONTROLLED
- LOCATION: 57 U.S. SITES

RESULTS

The trial was stopped for futility on the basis of an interim analysis. The mean score on the utility-weighted modified Rankin scale at 90 days was not higher with either argatroban or eptifibatide than with placebo. The incidence of symptomatic intracranial hemorrhage did not differ substantially among the three groups.

Utility-Weighted Modified Rankin Scale Score at 90 Days

Symptomatic Intracranial Hemorrhage
(within 36 hours after randomization)

90-DAY MORTALITY

The percentage of patients who died within 90 days was 24% in the argatroban group, 12% in the eptifibatide group, and 8% in the placebo group.

LIMITATIONS AND REMAINING QUESTIONS

- Local trial investigators were aware of the trial-group assignments (single-blind design).
- The number of patients in the argatroban group was small, owing to the randomization protocol.
- The trial did not address the potential effect of "intra-arterial" antithrombotic medications, which may provide more direct effects on cerebral microperfusion than systemic intravenous medications.

CONCLUSIONS

Among patients with acute ischemic stroke who received intravenous thrombolysis within 3 hours after symptom onset, with or without subsequent thrombectomy, treatment with intravenous argatroban or eptifibatide did not improve functional outcomes at 90 days.

LINKS: FULL ARTICLE | NEJM QUICK TAKE

FURTHER INFORMATION

Trial registration: ClinicalTrials.gov number, NCT03735979

Trial funding: National Institute of Neurological Disorders and Stroke

Full citation: Adeoye O, Broderick J, Derdeyn CP, et al. Adjunctive intravenous argatroban or eptifibatide for ischemic stroke. N Engl J Med 2024;391:810-20. DOI: 10.1056/NEJMoa2314779

WHAT'S UP

Published: 07 September 2024

Efficacy and safety of fentanyl inhalant for the treatment of breakthrough cancer pain: a multicenter, randomized, double-blind, placebo-controlled trial

Background

Breakthrough cancer pain (BTcP) has a negative impact on patients' quality of life, general activities, and is related to worse clinical outcomes. Fentanyl inhalant is a hand-held combination drug-device delivery system providing rapid, multi-dose (25µg/dose) administration of fentanyl via inhalation of a thermally generated aerosol. This multicenter, randomized, placebo-controlled, multiple-crossover, double-blind study evaluated the efficacy, safety, and tolerability of fentanyl inhalant in treating BTcP in opioid-tolerant patients.

Methods

The trial was conducted in opioid-tolerant cancer patients with 1 ~ 4 BTcP outbursts per day. Each patient was treated and observed for 6 episodes of BTcP (4 with fentanyl inhalant, 2 with placebo). During each episode of targeted BTcP, patients were allowed up to six inhalations, with an interval of at least 4 min between doses. Primary outcome was the time-weighted sum of PID (pain intensity difference) scores at 30 min (SPID30).

Results

A total of 335 BTcP episodes in 59 patients were treated. The mean SPID30 was -97.4 ± 48.43 for fentanyl inhalant-treated episodes, and -64.6 ± 40.25 for placebo-treated episodes ($p < 0.001$). Significant differences in PID for episodes treated with fentanyl inhalant versus placebo was seen as early as 4 min and maintained for up to 60 min. The percentage of episodes reported PI (pain intensity) scores ≤ 3, a ≥ 33% or ≥ 50% reduction in PI scores at 30 min, PR30 (pain relief scores at 30 min) and SPID60 favored fentanyl inhalant over placebo. Only 4.4% of BTcP episodes required rescue medication in fentanyl inhalant group. Most AEs were of mild or moderate severity and typical of opioid drugs.

Conclusion

Treatment with fentanyl inhalant was shown to be a promising therapeutic option for BTcP, with significant pain relief starting very soon after dosing. Confirmation of effectiveness requires a larger phase III trial.

WHAT'S UP

CLINICAL INVESTIGATIONS

Optic Nerve Sheath Diameter Point-of-Care Ultrasonography Quality Criteria Checklist: An International Consensus Statement on Optic Nerve Sheath Diameter Imaging and Measurement*

Hirzallah, Mohammad I. MD, MMSc[1,2]; Lochner, Piergiorgio MD, PhD[3]; Hafeez, Muhammad Ubaid MD[4]; Lee, Andrew G. MD[5,6]; Krogias, Christos MD[7]; Dongarwar, Deepa MS[8]; Hartman, Nicholas D. MD, MPH[9]; Ertl, Michael MD[10]; Robba, Chiara MD, PhD[11,12]; Malojcic, Branko MD, PhD[13]; Valaikiene, Jurgita MD, PhD[14]; Sarwal, Aarti MD[15]; Hakimi, Ryan DO, MS[16,17]; Schlachetzki, Felix MD[18]; for the Optic Nerve Sheath Diameter Point-of-Care Ultrasonography Quality Criteria Checklist (ONSD POCUS QCC) Expert Panelists

Author Information

Critical Care Medicine 52(10):p 1543-1556, October 2024. | *DOI*: 10.1097/CCM.0000000000006345

OBJECTIVES:

To standardize optic nerve sheath diameter (ONSD) point-of-care ultrasonography (POCUS) and improve its research and clinical utility by developing the ONSD POCUS Quality Criteria Checklist (ONSD POCUS QCC).

DESIGN:

Three rounds of modified Delphi consensus process and three rounds of asynchronous discussions.

SETTING:

Online surveys and anonymous asynchronous discussion.

SUBJECTS:

Expert panelists were identified according to their expertise in ONSD research, publication records, education, and clinical use. A total of 52 panelists participated in the Delphi process.

INTERVENTIONS:

None.

MEASUREMENTS AND MAIN RESULTS:

Three Delphi rounds and three asynchronous discussion rounds generated consensus on quality criteria (QC). This started with 29 QC in addition to other QC proposed by expert panelists. The QC items were categorized into probe selection, safety, body position, imaging, measurement, and research considerations. At the conclusion of the study, 28 QC reached consensus to include in the final ONSD POCUS QCC. These QC were then reorganized, edited, and consolidated into 23 QC that were reviewed and approved by the panelists.

CONCLUSIONS:

ONSD POCUS QCC standardizes ONSD ultrasound imaging and measurement based on international consensus. This can establish ONSD ultrasound in clinical research and improve its utility in clinical practice.

BREWING UP

LINK: ISSUE 6

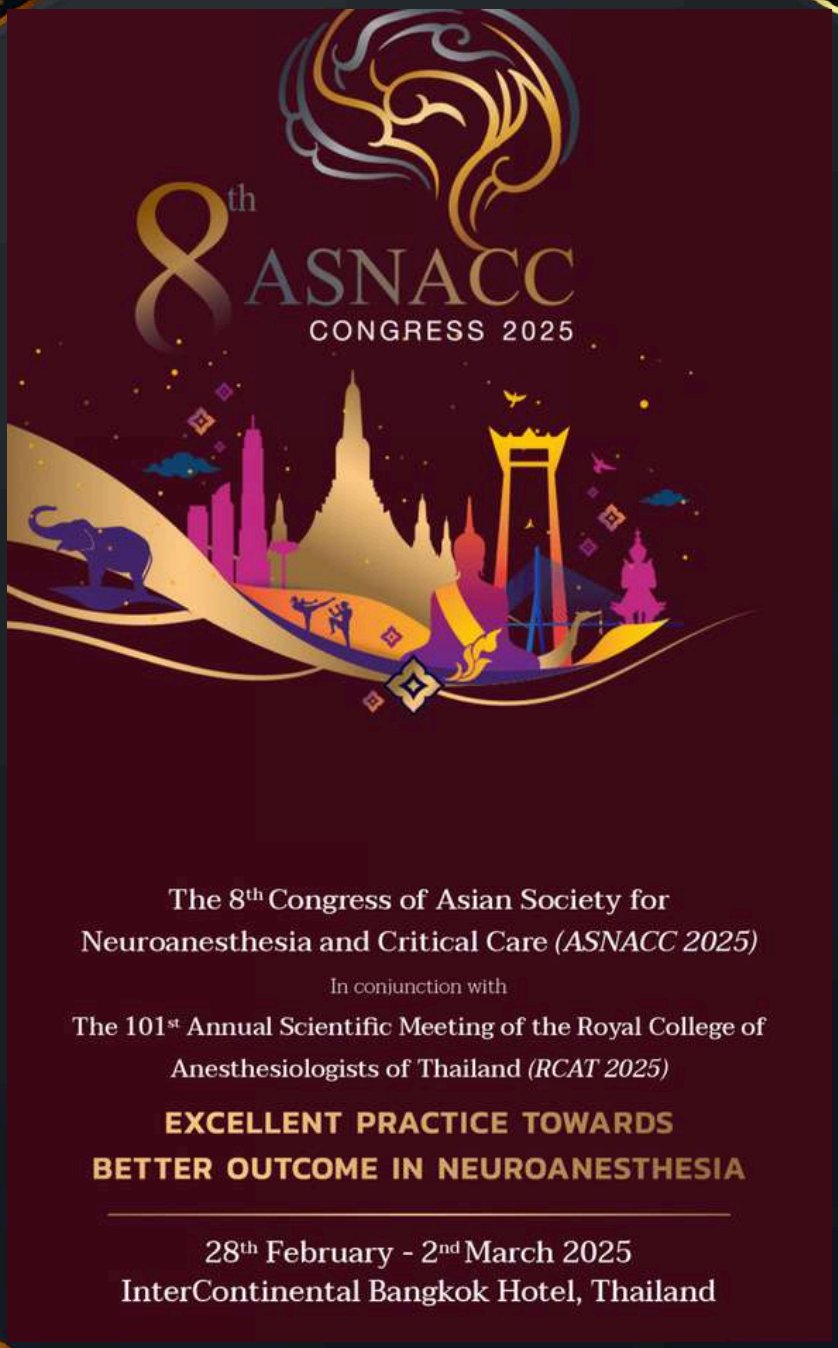
SEPTEMBER, 2024

BREWING UP


Making Waves
ACTUALIZING THE extraordinary
NCS 22ND ANNUAL MEETING
October 14-17, 2024
Manchester Grand Hyatt San Diego
San Diego, California


Hybrid
Critical Care
Conference
World Critical Care &
Anesthesiology
Conference 2025,
Bangkok
March 08-09, 2025
Bangkok, Thailand

BREWING UP


8th
ASNACC
CONGRESS 2025
The 8th Congress of Asian Society for
Neuroanesthesia and Critical Care (ASNACC 2025)
In conjunction with
The 101st Annual Scientific Meeting of the Royal College of
Anesthesiologists of Thailand (RCAT 2025)
EXCELLENT PRACTICE TOWARDS
BETTER OUTCOME IN NEUROANESTHESIA
28th February - 2nd March 2025
InterContinental Bangkok Hotel, Thailand

BREWING UP

COMING SOON

Chandigarh

LINK: ISSUE 6

SEPTEMBER, 2024

U

KAUVERY HOSPITAL, RADIAL ROAD, Chennai

DR. PONNIAH. V

pl ps

DR. SAURABH ANAND

SEPTEMBER, 2024

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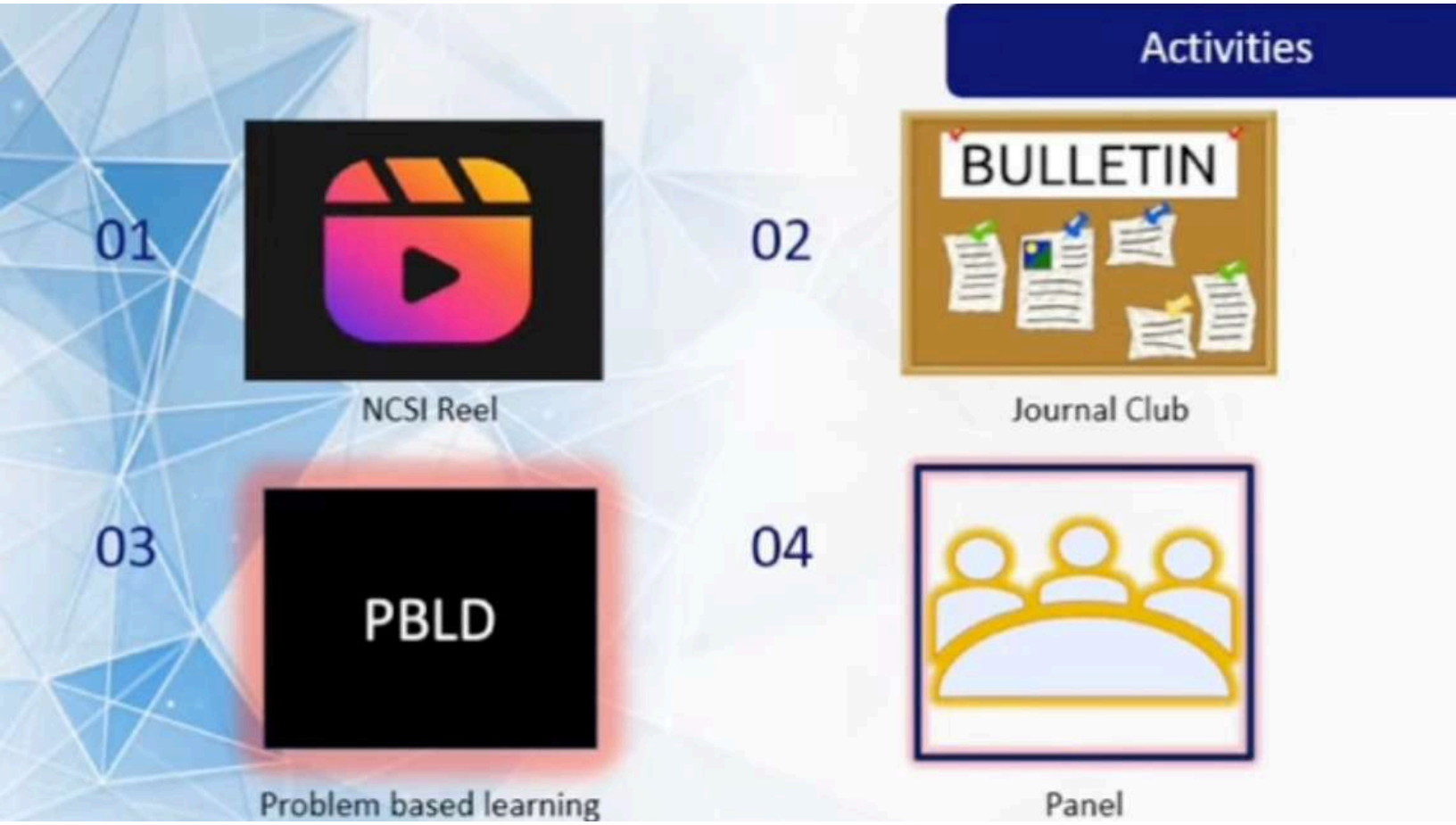
Activities
01
NCSI Reel
02
BULLETIN
Journal Club
03
PBLD
Problem based learning
04
Panel