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.

East Delhi Physicians' Association

EDPA QUARTERLY MEDICAL BULLETIN

SPECIAL 25TH ANNIVERSARY EDITION

EDPA, 2024

CELEBRATING 25 YEARS

EDPA

EAST DELHI PHYSICIANS' ASSOCIATION

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Celebrating 25 Years of Excellence:
A Message from the Editorial Committee

Dear Members of the East Delhi Physicians Association (EDPA),

On behalf of the Editorial Committee, it gives me immense pleasure to welcome you to this **special Silver Jubilee edition of the EDPA Medical Quarterly Bulletin**. As EDPA celebrates 25 years of shared knowledge, collaboration, and professional growth, this milestone marks not only the journey of EDPA but also the unwavering dedication and passion of its members. Your commitment to advancing healthcare and fostering excellence within our community has been the cornerstone of EDPA's success.

This commemorative edition of the bulletin is a tribute to our illustrious past. It features insightful articles penned by our esteemed Past Presidents and founding members, who have played a pivotal role in shaping the EDPA into the vibrant and dynamic organization it is today. Their reflections and contributions will provide invaluable perspectives on the evolution of medicine and the enduring relevance of our collective mission.

As part of our 25th Silver Jubilee celebrations, we are hosting a full-day medical conference on the 22nd of December 2024. This event promises to be an extraordinary opportunity for us to come together, learn, and exchange ideas on the latest advancements in healthcare. It will also be the moment when this special edition of the bulletin is formally unveiled—a true testament to the spirit of EDPA.

The scientific content in this edition has been meticulously curated to inform, educate, and inspire you. From case studies to reviews on health topics pertinent to our community, the articles represent the collaborative ethos that EDPA stands for. As we reflect on the past 25 years, let us also look ahead with the same zeal and determination to continue making a difference in the lives of our patients and the broader medical fraternity.

We invite and encourage all members to contribute to the future editions of this bulletin. Your case reports, articles, and insights are vital for fostering a culture of continuous learning and professional development within EDPA. Let your experiences and expertise enrich our collective knowledge base.

As we commemorate this remarkable journey, let us pledge to carry forward the legacy of EDPA with renewed enthusiasm and commitment. Together, we can ensure that the next 25 years are even more impactful and transformative for our association and the community we serve.

Warm regards,

Editorial Committee
East Delhi Physicians Association (EDPA)






EDPA Editorial Team

1. Dr RPS Makkar, Editor
2. Dr. P.N. Chaudhary, President EDPA
3. Dr Vijay Arora, Chairman, Scientific Committee
4. Dr Paras Gangwal, Immediate Past President
5. Dr Anindya Biswas, Joint Editor
6. Dr Swathi Jami, Secretary, EDPA

Dear Colleagues and Friends,

It is with immense pride and heartfelt nostalgia that I address you today, as EDPA celebrates its 25th Annual Conference. What began in 1995 as a small gathering of nine to ten dedicated physicians has blossomed into a thriving EDPA community of over 400 committed medical professionals in 2024. This incredible journey has been nothing short of extraordinary, a testament to the vision, determination, and unwavering dedication of our members, past and present.

Reflections on Our Journey

As I reflect on the early days of EDPA, I am reminded of the humble beginnings that laid the foundation for this vibrant organization. In 1995, a handful of us came together with a shared dream: to create a platform that would foster professional growth, encourage collaboration, and enhance the quality of healthcare in East Delhi. Those were challenging times, but our passion and determination fuelled our efforts to bring this dream to life.

Our first meetings were held in modest venues, with limited resources but boundless enthusiasm. The camaraderie and spirit of learning that characterized those early gatherings set the tone for what EDPA would become. Over the years, each president and committee member who followed contributed their unique strengths to shape the association into the formidable entity it is today.

I am deeply grateful to all my successors who carried the torch forward with such dedication and integrity. Each of you played a pivotal role in expanding our horizons, organizing impactful Continuing Medical Education (CME) sessions, forging partnerships with esteemed institutions, and advocating for the rights and welfare of the medical community. The milestones we have achieved—whether it be our collaborations with leading hospitals or our community outreach initiatives—stand as enduring symbols of our collective hard work.

Celebrating Our Growth

From a close-knit group of physicians to a robust association of over 400 members, EDPA has grown exponentially in size and stature. Our annual conferences, once small local events, have evolved into major gatherings that attract renowned speakers and thought leaders from across the country. Our CME programs have become benchmarks for excellence, and our focus on innovation, research, and ethics has earned us widespread respect in the medical fraternity.

Our success is a tribute to the unity and shared vision of our members. It is proof that when like-minded individuals come together with a common purpose, no challenge is insurmountable. This 25th anniversary is not just a celebration of our past; it is an opportunity to look ahead with hope and ambition.

A Message to Our New Members

To the new members of EDPA, you are the future of this association. The foundation has been laid, but the journey of growth and improvement is far from over. As you step into this vibrant community, I encourage you to embrace the following guiding principles:

1. ***Commit to Lifelong Learning**: Medicine is an ever-evolving field. Stay curious, seek knowledge, and participate actively in our CMEs and discussions.*
2. ***Foster Collaboration**: EDPA thrives on the exchange of ideas and collective wisdom. Engage with your peers, share your insights, and contribute to the growth of our community.*

3. ***Lead with Compassion****: Remember that our ultimate goal is to serve our patients with empathy and excellence. Let compassion guide your practice and inspire your contributions to EDPA.*
4. ***Embrace Responsibility****: As members of this esteemed association, you have a role in shaping its future. Take initiative, volunteer for committees, and work towards upholding the values and vision of EDPA.*

Looking Ahead

As we celebrate this milestone, let us also renew our commitment to excellence and innovation. The healthcare landscape is rapidly changing, and EDPA must continue to adapt, grow, and lead. Together, we can expand our reach, strengthen our impact, and achieve new heights of success.

In closing, I extend my deepest gratitude to every member who has contributed to EDPA's journey. This 25th anniversary is your achievement, and I am honored to have been a part of this incredible legacy. Let us continue to work together, guided by our shared passion and purpose, to build a brighter future for EDPA and the communities we serve.

With warm regards and best wishes,

Dr. Saroj Prakash

Founding Member & President EDPA, 1995-1997

1. The Burden of Air Pollution and Its Role in Cardiovascular Disease: A Global and Indian Perspective

Dr Manoj Kumar, DM Cardiology, Max PPG

Introduction

Air pollution is a significant contributor to global morbidity and mortality, with an increasing body of evidence linking it to cardiovascular diseases (CVD). The World Health Organization (WHO) attributes 4.2 million annual deaths to ambient air pollution, with a large proportion stemming from CVD. India bears a disproportionate burden due to high pollution levels, inadequate regulation, and population density. This article explores the global and Indian burden of air pollution, the pathophysiological mechanisms underlying its cardiovascular effects, and actionable strategies for physicians to mitigate risks for their patients.

Global Burden of Air Pollution on Cardiovascular Health

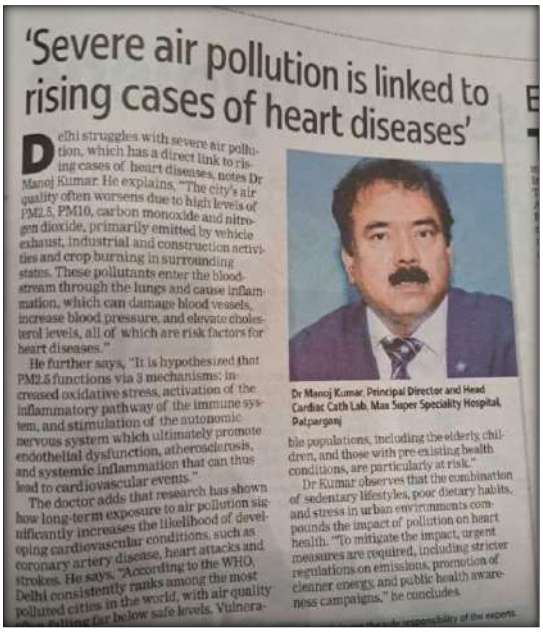
Air pollution ranks among the top global risk factors for non-communicable diseases. Fine particulate matter (PM2.5), nitrogen oxides (NOx), sulfur dioxide (SO_2), and carbon monoxide (CO) are key pollutants affecting cardiovascular health. A study published in *The Lancet Planetary Health* (2023) estimated that long-term exposure to PM2.5 caused over 4 million deaths worldwide in 2021, with cardiovascular complications being the leading contributor.

Regions with rapid urbanization, such as South Asia, sub-Saharan Africa, and East Asia, show the highest exposure and disease burden. In urban centres like Beijing, New Delhi, and Dhaka, annual PM2.5 levels routinely exceed WHO guidelines of 5 µg/m³, sometimes by as much as 20-fold.

Cardiovascular events such as myocardial infarction, stroke, arrhythmias, and heart failure have shown a dose-response relationship with pollutant exposure. Global estimates suggest that air pollution is responsible for 7.6% of all cardiovascular deaths, disproportionately affecting vulnerable populations, including the elderly, children, and individuals with pre-existing conditions.

Air Pollution and Cardiovascular Disease in India

India has the world's second-highest population and is home to 35 of the 50 most polluted cities globally, including Delhi, Kanpur, and Varanasi. Studies indicate that approximately 1.7 million deaths in India were linked to air pollution in 2019, of which a significant proportion resulted from ischemic heart disease and cerebrovascular conditions.



'Severe air pollution is linked to rising cases of heart diseases'

Delhi struggles with severe air pollution, which has a direct link to rising cases of heart diseases, notes Dr Manoj Kumar. He explains, "The city's air quality often worsens due to high levels of PM2.5, PM10, carbon monoxide and nitrogen dioxide, primarily emitted by vehicle exhaust, industrial and construction activities and crop burning in surrounding states. These pollutants enter the bloodstream through the lungs and cause inflammation, which can damage blood vessels, increase blood pressure, and elevate cholesterol levels, all of which are risk factors for heart diseases."

He further says, "It is hypothesized that PM2.5 functions via 3 mechanisms: increased oxidative stress, activation of the inflammatory pathway of the immune system, and stimulation of the autonomic nervous system which ultimately promote endothelial dysfunction, atherosclerosis, and systemic inflammation that can thus lead to cardiovascular events."

The doctor adds that research has shown how long-term exposure to air pollution significantly increases the likelihood of developing cardiovascular conditions, such as coronary artery disease, heart attacks and strokes. He says, "According to the WHO, Delhi consistently ranks among the most polluted cities in the world, with air quality

Dr Manoj Kumar, Principal Director and Head Cardiac Cath Lab, Max Super Speciality Hospital, Patparganj

ble populations, including the elderly, children, and those with pre-existing health conditions, are particularly at risk."

Dr Kumar observes that the combination of sedentary lifestyles, poor dietary habits, and stress in urban environments compounds the impact of pollution on heart health. "To mitigate the impact, urgent measures are required, including stricter regulations on emissions, promotion of cleaner energy, and public health awareness campaigns," he concludes.

The high pollution levels in India are driven by several factors:

1. **Biomass Combustion**: Many rural households still use wood and dung for cooking.
2. **Industrial Emissions**: The manufacturing sector contributes significant particulate matter and gases.
3. **Vehicular Traffic**: The proliferation of diesel vehicles and inadequate public transport exacerbate urban air quality issues.

These factors create an "air pollution epidemic" that disproportionately affects low- and middle-income households. Children and women, often exposed to indoor pollution, are particularly vulnerable to its long-term cardiovascular effects.

Pathophysiological Mechanisms Linking Air Pollution to CVD

The cardiovascular effects of air pollution are mediated by systemic inflammation, oxidative stress, and autonomic imbalance. Below is a detailed exploration of these mechanisms:

1. **Particulate Matter (PM2.5)**:
    - PM2.5 comprises particles smaller than 2.5 µm, capable of deep lung penetration. Upon inhalation, these particles enter alveoli, causing local inflammation and oxidative stress.
    - They can translocate into systemic circulation, interacting with vascular endothelium and promoting atherosclerosis.
    - Chronic exposure leads to the progression of coronary artery disease, arterial stiffness, and thrombogenesis.
2. **Inflammatory Response**:
    - Exposure to pollutants triggers an inflammatory cascade, characterized by elevated cytokines such as interleukin-6 (IL-6) and tumor necrosis factor-alpha (TNF-α).
    - This systemic inflammation accelerates plaque formation and destabilization, increasing the risk of acute coronary syndrome.
3. **Oxidative Stress**:

- Pollutants, especially NOx and ozone (O_3), generate reactive oxygen species (ROS) that impair endothelial function.
- Oxidative damage contributes to microvascular dysfunction, a precursor to hypertension and heart failure.

4. **Autonomic Dysfunction**:
   - Acute pollutant exposure leads to sympathetic overdrive, increasing heart rate and blood pressure.
   - Long-term exposure is associated with reduced heart rate variability, a marker of poor autonomic regulation and heightened cardiovascular risk.
5. **Arrhythmogenic Effects**:
   - Emerging evidence suggests that ultrafine particles (<0.1 µm) interact with myocardial ion channels, leading to arrhythmias.

Evidence-Based Insights

Recent guidelines and studies provide valuable insights:

- **WHO 2021 Guidelines**: Recommend annual PM2.5 levels <5 µg/m³, significantly lower than prior thresholds, emphasizing the absence of a safe exposure level.
- **ESC Recommendations (2021)**: Endorse environmental exposure assessment in routine cardiovascular risk profiling.
- **Lancet Commission on Pollution and Health (2022)**: Attributes approximately 8.3% of global ischemic heart disease cases to air pollution exposure.

Role of Physicians in CVD Risk Mitigation

Physicians have a crucial role in mitigating the cardiovascular impacts of air pollution. Below are actionable recommendations:

1. **Patient Education**:
   - Inform patients about local air quality indices (AQI) and encourage them to minimize outdoor activities during high-pollution periods.
   - Promote the use of air purifiers, particularly for high-risk groups such as the elderly and individuals with pre-existing CVD.
2. **Lifestyle Modifications**:
   - Advocate for smoking cessation, which compounds the effects of air pollution.
   - Encourage diets rich in antioxidants (e.g., fruits, vegetables, and omega-3 fatty acids) to counter oxidative stress.
3. **Pharmacological Interventions**:

- Consider statins and angiotensin-converting enzyme inhibitors (ACEIs), which have shown protective effects against pollution-induced vascular inflammation.
- For patients with pre-existing CVD, ensure optimized control of comorbidities like hypertension and diabetes.

4. **Advocacy and Research**:
   - Physicians can advocate for stronger air quality regulations and support public health campaigns to reduce emissions.
   - Encourage participation in epidemiological studies that explore localized pollution patterns and their health impacts.

Conclusion

Air pollution is an insidious threat to cardiovascular health, particularly in regions like India where regulatory frameworks are inadequate. The synergistic effects of particulate matter, toxic gases, and socio-economic vulnerabilities amplify the burden of CVD. Physicians must take a proactive role in mitigating this risk by educating patients, advocating for cleaner air policies, and incorporating environmental factors into clinical practice.

By addressing air pollution as a cardiovascular risk factor, the medical community can make significant strides toward reducing the global and local burden of cardiovascular diseases.

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2. The Cost of Medical Education in India: An Investigation into Accessibility, Equity, and Corruption

Dr Vijay Arora, MD Medicine, Max PPG

EDPA President (2019-21, 2021-22)

Introduction

Recent reports reveal a troubling trend in medical education: students from economically weaker sections (EWS) securing seats in post-graduate medical programs with course fees running into crores. While this appears to be an equity win, it raises significant concerns about systemic corruption, fraudulent documentation, and accessibility gaps. This article is an attempt to examine these issues critically, exploring the harsh reality and potential misuse of the EWS quota and its implications for physicians and the healthcare system in India.

The Cost Barrier and Discrepancies

TIMES NATION

'EWS' students get medical PG seats with fees running in crores

Students Ask How They Can Afford It If Their Income Is What They Claim

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Over 140 candidates belonging to the economically weaker section (EWS, annual family income less than ₹8 lakh) have chosen postgraduate seats in clinical specialties from the management and NRI quotas of private medical colleges for which tuition fees alone range from ₹25 lakh to over ₹90 lakh per annum.

This has led to many aspirants questioning how these candidates managed to get the EWS certificate if they could afford to pay over a crore for a three-year postgraduate course. The first round of allotment of postgraduate seats in medical colleges was announced on Nov 20. Out of more than 24,600 seats allotted in the

FAKE EWS CERTS?

first round, 135 seats from the management quota in private medical colleges have been allotted to candidates who registered as EWS. Eight NRI seats have also been allotted to EWS candidates. For instance, an MS Orthopaedics seat in the management quota of Sri Lakshmi Narayana Institute of Medical Sciences in Puducherry, for which the tuition fee alone comes up to ₹1.6 crore for the entire course has been allotted to an EWS candidate. Similarly, an EWS candidate has got an MD Radiology seat from the NRI quota in Rajarajeswari Medical College and Hospital, Mysore. The annual fees for this seat are ₹91 lakh. Many MBBS graduates who appeared for the NEET PG exam asserted that there was a huge increase in candidates using fake EWS certificates and demanded that the govt initiate an enquiry. "Seeing the counselling allotment results, it's quite frustrating that EWS candidates have taken admission in colleges that charge fees in crores for three years. As a NEET PG aspirant, this is disheartening. How can someone from the EWS category pay this much as fees? How is the govt issuing these EWS certificates? The govt must cancel the seats of these aspirants," said a NEET PG aspirant.

1. **The Financial Reality**: Medical education, particularly in private institutions, is prohibitively expensive. The annual fees for some courses exceed ₹50 lakh, with the full program costing over ₹2 crore. For genuinely low-income families, such sums are unimaginable, even with educational loans. This raises the question: How are students from the EWS category affording these exorbitant fees?

2. **Evidence of Misuse**:
   Anecdotal and investigative reports suggest that some students may be exploiting the EWS quota by submitting falsified income certificates. These certificates, often procured through corrupt practices, allow wealthier families to secure seats at the expense of truly deserving candidates.

3. **The Role of Middlemen**:
   Corruption in the system is fuelled by a network of middlemen, bureaucrats, and even institutional staff who facilitate the creation of fake income documents. This not only undermines the integrity of the EWS reservation but also perpetuates inequity.

Corruption in EWS Seat Allocation

1. **How the Fraud Operates**:

27% OBC, 10% EWS reservation in med seats from all-India quota

Overall Slots In Institutions To Be Increased

TIMES NEWS NETWORK

New Delhi: Days after Prime Minister Narendra Modi asked the health and education ministries to move on implementing OBC and EWS quo-

▶Modi focuses on tech edu in mother tongue, P 11

tas in medical and dental colleges, the government announced the reservations, expected to benefit nearly 5,550 students every year.

Medical and dental courses will now have 27% reservation for other backward classes and 10% for economically weaker sections (which covers forwards) under the all India quota for undergraduate and postgraduate programmes, the government said on Thursday.

The reservation will be implemented from the current academic year 2021-22.

It will benefit nearly 1,500 OBC students in MBBS and 2,500 OBC students in postgraduation and around 550 EWS students in MBBS and 1,000 in postgraduation. The decision can be seen in the context of "pro-OBC" initiatives such as the inclusion a significant number of OBCs in the recent ministerial reshuffle and the moves to undo an unfavourable Supreme Court order on designating of state backward lists.

While the issue of reservation in the all-India quota was pending for a long time, the Prime Minister, at a meeting held on Monday, directed the ministries concerned to facilitate an effective solution. The introduction of the OBC reservation would significantly increase the overall seats as well. As was the case when OBC reservation was introduced in 2009, the number of non-reserved seats too were increased proportionately so as to ensure that the percentage of general seats remains the same.

▶All-India quota, P 13

CENTRAL LIST TO BE USED

- Meant for undergraduate and PG medical and dental courses – MBBS, MD, MS, diploma, BDS & MDS – from current academic year (2021-22)
- All-India quota (AIQ) scheme consists of 15% of total available UG seats and 50% of total available PG seats in govt medical colleges
- AIQ was introduced in 1986 under SC directions to provide for domicile-free, merit-based opportunities to students from any state to study in a medical college located in another state
- In 2007, Supreme Court introduced 15% quota for SCs and 7.5% for STs in AIQ scheme
- Central list of OBCs to be used

This will immensely help thousands of our youth every year get better opportunities and create a new paradigm of social justice in our country
—PM Narendra Modi on Twitter

   - **Manipulated Documentation**: Applicants use fake income proofs to claim EWS benefits, sidestepping the ₹8 lakh annual income limit.
   - **Institutional Complicity**: Some private medical colleges overlook discrepancies in documentation in exchange for hefty donations or capitation fees.
   - **Misallocation of Seats**: Genuine EWS candidates are often displaced by those who manipulate the system, effectively defeating the purpose of the quota.

2. **Consequences of Fraudulent Practices**:
   - **Erosion of Trust**: Such practices undermine public trust in the education system and reservation policies.
   - **Quality Concerns**: The focus shifts from merit-based selection to financial transactions, raising concerns about the competence of future doctors.
   - **Widening Inequities**: Genuine EWS candidates are marginalized, perpetuating cycles of poverty and restricted upward mobility.

Implications for the Healthcare System

1. **Skewed Workforce Distribution**:
   High fees and associated debts push graduates toward high-paying jobs in urban or international markets, deepening the rural healthcare deficit.

2. **Ethical Dilemmas**:
   Physicians emerging from a system riddled with corruption may carry forward compromised ethical standards, impacting patient care and public health policies.
3. **Public Distrust**:
   Patients' faith in the medical profession diminishes when corruption within its foundational systems is exposed.

Investigative Approaches: Lessons from Fraud Detection

1. **Data Cross-Verification**:
   Authorities must employ technology to cross-verify income certificates with tax filings, property ownership records, and other financial disclosures.
2. **Randomized Audits**:
   Independent audits of EWS admissions can uncover discrepancies and deter malpractice.
3. **Transparency and Reporting Mechanisms**:
   Institutions should maintain a transparent admission process, with public access to anonymized data on EWS seat allocation. Whistleblower protection laws should safeguard those exposing fraud.

Recommendations for Reform

1. **Regulating Fees**:
   The National Medical Commission (NMC) must enforce strict caps on tuition fees for private medical colleges, ensuring affordability for all.
2. **Stronger Penalties**:
   Those found guilty of fabricating income documents or facilitating fraud must face severe consequences, including disqualification and legal action.
3. **Enhanced Scholarships**:
   Government and private entities should expand financial aid programs for genuine EWS candidates to cover tuition, accommodation, and living expenses.
4. **Support Systems for EWS Students**:
   Mentorship, academic support, and psychological counselling can help economically weaker students navigate the challenges of medical education.
5. **Advocacy by Physicians**:
   Physicians must leverage their influence to demand systemic reforms in medical education, ensuring it serves public health interests rather than private profit motives.

Conclusion

The recent revelations about EWS admissions in medical education spotlight a deep systemic malaise. Corruption, inequity, and exorbitant costs are eroding the foundational values of the healthcare profession. Physicians, as stewards of public health, must champion reforms that restore fairness,

transparency, and meritocracy in medical education. Only by addressing these issues head-on can India build a healthcare system that is equitable, efficient, and truly inclusive.

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3. New UTI Guidelines: Bridging Knowledge Gaps and Implications for Clinical Practice

Dr Lalit Kumar, MD Medicine

EDPA President 2013-2015

Introduction

The recently published urinary tract infection (UTI) guidelines by the WikiGuidelines Group on Nov 2024 (**Guidelines for the Prevention, Diagnosis, and Management of Urinary Tract Infections in Pediatrics and Adults,** A WikiGuidelines Group Consensus Statement, *JAMA Netw Open.* 2024;7(11):e2444495), bring clarity to the prevention, diagnosis, and management of UTIs. Developed with contributions from 54 global experts and rooted in high-quality evidence, the guidelines address key clinical issues while emphasizing patient-centered care. This article reviews the guideline's updates, compares them with Indian practices, and highlights the learnings for Delhi physicians.

Key Updates from the Guidelines

1. **Prevention**:
    - **Cranberry Products**: Recommended for women, children, and post-procedure patients prone to UTIs but not for older adults or pregnant women.
    - **Topical Estrogen**: Endorsed for postmenopausal women to prevent recurrent UTIs, including those with breast cancer, when non-hormonal alternatives fail.
    - **Methenamine Hippurate**: An alternative to antibiotics for recurrent UTI prevention in patients with intact bladder anatomy.

    Comparison with Previous Guidelines:
    These updates reinforce the use of cranberry supplements and methenamine, diverging from some earlier practices that lacked robust evidence.

2. **Empirical Treatment**:
    - **Drug Choices**: Nitrofurantoin for uncomplicated cystitis and TMP/SMX or cephalosporins for pyelonephritis. Ceftriaxone is the preferred IV agent for multidrug resistance risk.

- **Duration**: Shortened treatment durations for common cases—e.g., 5 days for nitrofurantoin, 3 days for TMP/SMX.

Changes:
The emphasis on reducing treatment durations aligns with antimicrobial stewardship goals.

3. **Management Principles**:
   - **Stewardship**: Advocates for antibiotic de-escalation and oral therapy to minimize side effects and costs.
   - **Asymptomatic Bacteriuria**: Avoid treatment due to risks outweighing benefits.
   - **Special Populations**: Prophylactic antibiotics for high-risk patients undergoing urologic procedures, with minimal intervention for low-risk cases.

Implications for physicians

1. **Alignment and Differences**:
   - Indian guidelines traditionally focus on empirical therapy based on local antimicrobial resistance patterns. The new global guidelines advocate for similar stewardship principles but underscore variations in diagnostic approaches.
   - Emphasis on methenamine and cranberry supplements introduces options less prevalent in Indian protocols.
2. **Challenges in India**:
   - High prevalence of multidrug-resistant pathogens.
   - Limited access to advanced diagnostics in rural settings.

Key Learnings for EDPA Physicians

1. **Prevention Emphasis**: EDPA physicians can integrate topical estrogen and non-antibiotic alternatives like methenamine into their practice, benefiting urban postmenopausal women with recurrent UTIs.
2. **Diagnostics**: Increased awareness of the risks of overdiagnosing and overtreating asymptomatic bacteriuria could reduce unnecessary antibiotic use.
3. **Stewardship**: Collaborative efforts between urologists, infectious disease specialists, and primary care physicians are critical to promoting sustainable antibiotic practices in India.

Conclusion

The updated UTI guidelines mark progress in integrating evidence-based, patient-centered care while addressing antimicrobial resistance. However, significant knowledge gaps highlight the need for more high-quality research, particularly in diverse populations. For Indian physicians, these guidelines offer an opportunity to refine practices while advocating for equitable healthcare access and better resource allocation.

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4. Hypothyroidism: consensus on role of LT4 and LT3 combination treatment in treating hypothyroidism

Dr Rajeev Bansal, MD Medicine, Senior Consultant Physician

EDPA President 2015-2017

Introduction

Hypothyroidism, a common endocrine disorder, is characterized by insufficient production of thyroid hormones. Globally, it affects about 5% of the population, with women being disproportionately impacted. In India, the prevalence is estimated at 10.95%, making it a significant public health concern. The disorder, often linked to iodine deficiency and autoimmune conditions, requires timely diagnosis and treatment to prevent severe complications like cardiovascular disease, infertility, and neurocognitive deficits. This article summarises current guidelines for diagnosing and managing hypothyroidism, with actionable insights for practicing EDPA physicians.

Burden of Hypothyroidism

1. **Global Perspective**:
   According to the American Thyroid Association (ATA), hypothyroidism affects 5% of individuals worldwide, with subclinical hypothyroidism presenting in an additional 5%.

2. **Indian Context**:
   A study by the Indian Thyroid Society highlights a higher prevalence in India, particularly among women (15%) and elderly populations. Contributing factors include widespread iodine deficiency, autoimmune thyroiditis, and genetic predisposition.

   Impact:
   - **Economic Burden**: High costs associated with diagnosis and lifelong treatment.

1. **Global Perspective-** Hypothyroidism imposes significant direct and indirect economic burdens globally. Direct costs include diagnostic testing, medication (levothyroxine), and monitoring, while indirect costs stem from productivity loss, reduced quality of life, and complications if untreated. A 2022 study estimated annual healthcare expenditures of $5 billion in the U.S., with higher costs for poorly managed cases. Globally, the economic impact grows with increasing disease prevalence and aging populations.

2. **Burden in India-** In India, the economic burden is amplified due to a higher prevalence (10.95%) and healthcare disparities.

    a. **Direct Costs**:
        1. Diagnostic testing is costly and inconsistently available in rural areas.
        2. Lifetime treatment with levothyroxine varies in affordability across socioeconomic groups.
    b. **Indirect Costs**:
        1. Hypothyroidism reduces workforce productivity, with absenteeism and presenteeism contributing to national economic losses.
        2. Mismanagement leads to costly complications like cardiovascular diseases.

- **Challenges**
    1. **Healthcare Access**: Rural areas face delays in diagnosis and treatment.
    2. **Awareness and Education**: Misconceptions about treatment and underdiagnosis contribute to suboptimal outcomes.

- **Morbidity**: Untreated cases lead to developmental delays in children and multi-system complications in adults.

Guidelines for Diagnosis

1. **Screening Recommendations**:
    - ATA and the Endocrine Society recommend screening high-risk populations, including pregnant women, individuals with a family history of thyroid disease, and those with autoimmune disorders.
    - The Indian Thyroid Society emphasizes targeted screening in iodine-deficient regions.

2. **Diagnostic Criteria**:
    - **TSH Measurement**: The gold standard for detecting hypothyroidism. Elevated TSH levels (>4.5 mIU/L) indicate dysfunction.
    - **Free T4 Levels**: Low free T4 with high TSH confirms overt hypothyroidism.
    - **Thyroid Antibodies**: Tests for anti-TPO and anti-thyroglobulin antibodies are recommended to diagnose autoimmune thyroiditis.

3. **Special Considerations**:
    - **Pregnancy**: Lower TSH thresholds are used due to physiological changes.
    - **Elderly**: Subclinical cases often require careful risk-benefit analysis before initiating therapy.

Guidelines for Treatment

1. **Monotherapy with Levothyroxine (T4)**:
    1. The first-line treatment for hypothyroidism in LT4.

2. **Dosage**: Initial dosing is weight-based (1.6 mcg/kg/day) and adjusted based on TSH levels every 6-8 weeks.

Advantages:

3. Long half-life enables once-daily dosing.
4. Consistently normalizes TSH in most patients.

2. **Combination Therapy (T4 and T3)**:

In hypothyroidism, the use of T3 (Liothyronine) is less common than T4 (Levothyroxine), but it may be considered in specific cases where patients have trouble converting T4 to T3 or continue to experience symptoms despite normal TSH levels on T4 alone.

1. **Challenges**: Balancing the short half-life of T3 to avoid fluctuations in hormone levels.
2. **Current Evidence**: Mixed results from clinical trials warrant cautious use, with ongoing research to define patient subsets likely to benefit.

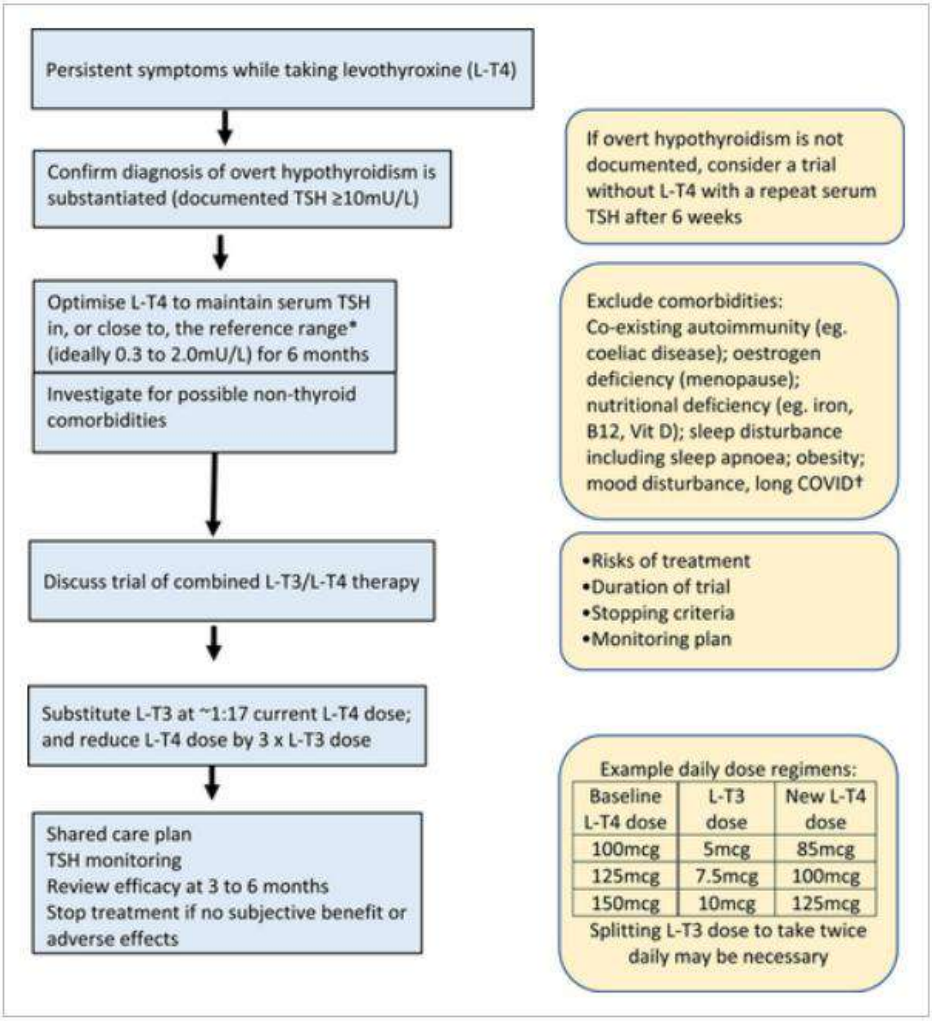
Dose of T3

3. **Starting dose**:
    1. T3 is typically initiated at 5 mcg to 25 mcg per day, with careful titration to avoid overstimulation of the heart or other adverse effects.
    2. The dose is gradually increased based on clinical response and laboratory values, typically to a maximum of 50 mcg to 75 mcg per day.
    3. Monitoring:
        1. Regular monitoring of thyroid function tests (TSH, Free T3, Free T4) is essential when using T3, adjusting based on clinical response.

Overview of the Joint British Thyroid Association guideline on use of T3 in hypothyroidism.

Key provisions of the guidelines, published in 2023, include:

1. Most patients with hypothyroidism should be treated with levothyroxine alone.
2. Recommendation to monitor levothyroxine replacement therapy in individuals with primary hypothyroidism with serum TSH measurements, with additional free T4 measurements if TSH is outside the reference range.
3. Before considering a trial of liothyronine, recommend confirming that a diagnosis of primary hypothyroidism is substantiated (documented TSH ≥10 mU/L; and/or low FT4 pretreatment with thyroid replacement hormones). If a diagnosis of overt hypothyroidism cannot be confirmed, consider a trial without levothyroxine with a repeat serum TSH after 6 weeks.
4. Before considering a trial of liothyronine, BTA guidelines recommend that comorbidities are excluded as the cause of the persistent symptoms
5. Before considering a trial of liothyronine, adjust levothyroxine dose to maintain serum TSH toward the lower end of the reference range (e.g., 0.3–2.0 mU/L) for 6 months



6. When considering levothyroxine adjustment, it may be preferable to have a low but not suppressed serum TSH (e.g., 0.1–0.3 mU/L) during levothyroxine monotherapy if this improves symptoms, rather than starting on liothyronine.
7. Before initiating liothyronine/levothyroxine combination therapy, it recommends that TSH levels are detectable and within reference range.
8. Levothyroxine dose reduction should be considered before initiating liothyronine in individuals with undetectable TSH levels.
9. To initiate combination treatment, substitute liothyronine at about 1:17th of the current levothyroxine dose; and reduce levothyroxine dose by 3× liothyronine dose.
10. A minimum of 3–6 months of liothyronine/levothyroxine combination therapy while maintaining a TSH level within reference range, should be considered before determining the response to a trial.
11. To assess adequacy of replacement, its recommended to with serum TSH only. In patients with a low or suppressed serum TSH, free T3 or free T4 should be measured to avoid over replacement. Interpretation of measured serum free T3 levels should be made in context of dosage, timing, and frequency of liothyronine therapy, and it should be stated on the laboratory request that the patient is taking liothyronine.
12. Every patient considered for a trial of liothyronine should be assessed by an endocrinologist for initiation and confirmation of sustained response to treatment.
13. Patients who feel well on combination liothyronine/levothyroxine with a serum TSH within the reference range should not be routinely deprescribed liothyronine. Following a discussion with

an endocrinologist, some people stable on combination liothyronine/levothyroxine therapy may have a trial of levothyroxine monotherapy to see whether the liothyronine is still benefitting them.

14. Liothyronine should not be used as monotherapy except in the situation of confirmed allergy or intolerance to levothyroxine or its excipients.
15. Liothyronine should not be used in pregnancy.
16. Guidelines do not recommend use of desiccated thyroid extract. Before considering a trial of LT3, confirm a diagnosis of primary hypothyroidism, with a TSH level ≥ 10 and/or low FT4 level.

Management in Special Populations:

1. **Pregnancy**: Increased levothyroxine dosage by 30-50% during pregnancy to maintain TSH within trimester-specific ranges. Liothyronine should not be used in pregnancy
2. **Subclinical Hypothyroidism**: Treatment is advised for TSH >10 mIU/L or in symptomatic cases.

Key Learnings for Practicing EDPA Physicians

1. **Patient-Centered Care**:
   - Treatment goals should focus on symptom resolution, normalizing TSH levels, and preventing complications.
2. **Individualized Therapy**:
   - While T4 monotherapy remains the standard, physicians should evaluate persistent symptoms carefully before considering T4/T3 combination therapy.
3. **Monitoring**:
   - Regular follow-ups with TSH & free T4 testing ensure treatment efficacy and adherence.
4. **Awareness of Guidelines**:
   - Familiarity with ATA and local guidelines helps ensure evidence-based management tailored to the Indian population.

Conclusion

Managing hypothyroidism effectively requires a multidisciplinary approach rooted in evidence-based practices. Physicians should remain updated on evolving guidelines to provide optimal care, particularly in resource-limited settings. The integration of patient-centered approaches, regular monitoring, and adherence to national protocols can help mitigate the burden of this prevalent condition in India.

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5. Cardiovascular Disease Prevention: Clinical Practice Guidelines for Physicians in East Delhi

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Introduction

Cardiovascular diseases (CVDs) remain the leading cause of morbidity and mortality worldwide, with an increasing burden in India, including regions like East Delhi. The incidence of CVD in India has seen a significant rise over the last few decades, attributed to factors such as urbanization, lifestyle changes, poor dietary habits, and increasing obesity rates. Effective prevention and management strategies for CVD are crucial to reduce this burden. This article aims to outline the current clinical practice guidelines for the prevention of cardiovascular disease, emphasizing aspects relevant to practicing physicians in East Delhi.

Global Burden of Cardiovascular Disease

Cardiovascular disease is the leading cause of death globally, responsible for approximately 18 million deaths annually. In India, the prevalence of CVD is alarmingly high, with ischemic heart disease and stroke leading the charge. According to the Global Burden of Disease Study, CVD accounted for 28% of all deaths in India in 2019. The risk factors contributing to this surge in CVD prevalence include hypertension, diabetes, high cholesterol, smoking, and physical inactivity.

The urban population, including those in East Delhi, faces additional challenges like poor air quality, unhealthy diets, and lack of physical activity, all of which increase the risk of cardiovascular events. Therefore, a robust, multi-dimensional approach to CVD prevention is essential to reduce the economic and health burden in the region.

Risk Factors and Screening

CVD prevention starts with identifying individuals at high risk. The most common modifiable risk factors include:

1. **Hypertension**: A leading cause of heart disease and stroke, hypertension often goes undiagnosed and untreated in India. The Indian Council of Medical Research recommends regular blood pressure monitoring for adults, particularly those above 40 years, to identify early-stage hypertension.
2. **Diabetes and Dyslipidemia**: Diabetes is a significant contributor to cardiovascular morbidity. Recent studies suggest that around 8-9% of Indian adults suffer from diabetes, which is a leading risk factor for CVD. Dyslipidemia, particularly high LDL cholesterol levels, further exacerbates the risk.
3. **Tobacco Use and Alcohol Consumption**: Smoking is a primary risk factor for heart disease in India, with 14% of Indian men and 3% of women smoking. Excessive alcohol intake also contributes to hypertension and arrhythmias.
4. **Obesity and Physical Inactivity**: The rise in sedentary lifestyles, especially in urban areas like East Delhi, has led to an increase in obesity. A body mass index (BMI) over 30 kg/m² increases the risk of hypertension, diabetes, and other cardiovascular conditions.
5. **Family History and Age**: Family history of cardiovascular disease and increasing age are non-modifiable risk factors that need to be carefully monitored.

Clinical Practice Guidelines for CVD Prevention

Recent guidelines for CVD prevention emphasize the importance of lifestyle modification, appropriate pharmacotherapy, and regular screening. The key recommendations are as follows:

1. Lifestyle Modification

- **Dietary Interventions**: A heart-healthy diet, such as the Mediterranean diet, rich in fruits, vegetables, whole grains, and lean proteins, is recommended. The reduction of saturated fats, trans fats, and high salt intake is crucial. Physicians in East Delhi should focus on educating patients about local, heart-healthy foods and balanced dietary patterns that can help in managing weight and preventing hypertension and diabetes.

- **Physical Activity**: The WHO recommends at least 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity aerobic exercise per week. Encouraging patients to incorporate more physical activity, such as walking, cycling, or yoga, is critical in preventing cardiovascular events. Local public health campaigns promoting physical activity in East Delhi could help in motivating the sedentary population.

- **Smoking Cessation**: Smoking is a leading cause of heart disease, and smoking cessation should be prioritized. Pharmacological interventions such as nicotine replacement therapy (NRT) and varenicline, along with behavioral support, have been shown to be effective in helping individuals quit smoking.

2. Pharmacotherapy

In patients at high risk or those with existing cardiovascular disease, pharmacotherapy plays a crucial role in reducing the risk of further events. The most common medications include:

- **Statins**: Statins, such as atorvastatin and rosuvastatin, are recommended for patients with high cholesterol and a history of cardiovascular events. Statins are known to reduce LDL cholesterol and the risk of heart attacks and strokes.
- **Antihypertensives**: Medications such as ACE inhibitors, angiotensin II receptor blockers (ARBs), calcium channel blockers, and diuretics are commonly used to control blood pressure in hypertensive patients.
- **Aspirin**: Low-dose aspirin may be considered for patients with a high risk of CVD, though its use must be individualized based on bleeding risk.
- **Antidiabetic Medications**: Metformin and SGLT2 inhibitors are commonly prescribed for diabetes management, which is crucial in reducing the cardiovascular risk in diabetic patients.

3. **Screening and Early Detection**

Early detection of risk factors is critical in the prevention of CVD. Regular screening for hypertension, diabetes, dyslipidemia, and obesity should be performed, especially in individuals over the age of 40 or those with a family history of cardiovascular disease. The risk can be further quantified using tools like the Framingham Risk Score or the Systematic Coronary Risk Evaluation (SCORE) tool. Early identification allows for timely interventions, such as lifestyle changes or pharmacotherapy, to prevent the onset of CVD.

4. **Monitoring and Follow-up**

Once a patient is diagnosed with cardiovascular risk factors, continuous monitoring is essential. This includes regular follow-up to ensure adherence to lifestyle changes and medication. Additionally, monitoring of blood pressure, lipid profiles, and glucose levels is crucial in evaluating the effectiveness of the treatment plan and making necessary adjustments.

5. **Challenges**

Physicians face unique challenges when it comes to CVD prevention. The urban lifestyle, characterized by long work hours, pollution, and limited access to exercise, makes adherence to lifestyle changes difficult. Additionally, there is a lack of awareness regarding preventive measures, and many individuals only seek medical help after experiencing symptoms. Moreover, the healthcare infrastructure may not always be able to provide timely access to diagnostic and treatment resources, leading to delays in intervention. There is also a cultural resistance to pharmacotherapy in Indian communities, with a preference for traditional medicine over prescribed medications.

Conclusion

CVD prevention remains a critical healthcare priority, given the rising incidence and the associated morbidity and mortality. Physicians play a pivotal role in managing risk factors through a combination of lifestyle interventions, pharmacotherapy, and regular monitoring. By adhering to the current clinical guidelines, clinicians can significantly reduce the burden of cardiovascular disease in their patients.

Key Learnings for EDPA Physicians:

1. Encourage early detection and regular screening for CVD risk factors.
2. Emphasize lifestyle modifications, particularly diet and exercise, tailored to local cultural contexts.
3. Provide education about the importance of adherence to prescribed medications.
4. Address barriers to healthcare access and medication adherence, particularly in underserved populations.

As we continue to confront the rising epidemic of cardiovascular disease, the role of prevention and early intervention will remain crucial in improving cardiovascular health outcomes for patients.

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6. Bacterial Meningitis: A substantial public health challenge in India

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Introduction

Bacterial meningitis is a severe infection of the meninges, the protective membranes covering the brain and spinal cord. Despite advances in medical care, it remains a significant cause of morbidity and mortality worldwide. This article aims to provide an in-depth look at the burden of the disease, particularly in India, as well as its diagnosis, clinical presentations, testing modalities, empiric therapy, outcomes, and preventive strategies.

Global Burden of Meningitis

Meningitis remains a significant cause of morbidity and mortality globally, particularly in the pediatric population, accounting for approximately 180,000 deaths annually.

Historical Context

Before the introduction of vaccines, the most common causes of bacterial meningitis were:

- *Haemophilus influenzae* type b (Hib)
- *Streptococcus pneumoniae*
- *Neisseria meningitidis*

The prevalence of these pathogens varied by time, location, and age group.

Impact of Vaccination

The introduction of vaccines has significantly reduced the incidence of bacterial meningitis due to Hib and *S. pneumoniae* in high-income countries. However, in low- and middle-income countries, the disease remains a major concern due to:

- Low levels of vaccine coverage
- Non-availability of vaccines in national immunization programs

Epidemiological Studies

Population-based studies from South Asia and hospital-based studies in these regions report that *S. pneumoniae* accounts for:

- 12.8% of confirmed invasive bacterial disease cases in population studies
- 28% in retrospective hospital studies

Burden of Disease, especially in India

Bacterial meningitis poses a substantial public health challenge, with varying incidence rates globally. In India, the disease burden is particularly high due to factors such as overcrowding, poor healthcare infrastructure, and limited access to vaccines. Recent estimates suggest thousands of cases annually, with a higher prevalence in children under the age of five.

Mortality Rates

In India, pneumonia and meningitis are the leading causes of death among children under five, contributing to nearly 22% of deaths in this age group.

Infection Sources

Hospital data indicate:

- 40-50% of meningitis cases
- 25-30% of pneumonia cases are caused by Hib infection.

Surveillance Studies

Various multisite studies in India, including:

- Invasive Bacterial Infection Surveillance (IBIS)
- Alliance for Surveillance of Invasive Pneumococci (ASIP)
- Asian Network for Surveillance of Resistant Pathogens
- Pan Asia Epidemiologic Surveillance Network
- Asian Strategy for Pneumococcal Disease Prevention

These studies have provided data on the sero-epidemiology and drug resistance of pneumococcal infections. However, historical data do not reflect current trends or serotypes post-PCV vaccine introduction.

Clinical Presentations

Bacterial meningitis presents with a range of symptoms, which can vary depending on the patient's age and the causative organism. The disease is notoriously difficult to diagnose during its early stages due to its short incubation period, averaging 4 days (ranging from 2 to 10 days), and its rapid progression from nonspecific flu-like symptoms to severe illness or death within 24–48 hours. Common clinical features include:

- Fever
- Severe headache
- Neck stiffness
- Altered mental status
- Nausea and vomiting

- Photophobia In infants and young children, symptoms may include irritability, poor feeding, lethargy, and bulging fontanelle.
- Initial symptoms can quickly escalate to fulminant disease characterized by multi-organ failure and death, despite appropriate treatment. This rapid progression is influenced by factors such as the host's immune response, the inflammatory response, bacterial load, and levels of circulating endotoxin . Early symptoms include fever, poor feeding or decreased appetite, nausea, and vomiting . Patients may present with irritability, lethargy, headache, drowsiness, and irritation .
- As the disease progresses, typically around 12–15 hours after symptom onset, more specific signs such as neck stiffness and photophobia can appear. Rash, a common symptom, is present in about 25%, and seizures may develop in fewer than one-third of cases.
- Early signs of developing sepsis, which can occur as soon as 12 hours after disease onset, include lower limb pain, skin pallor, cold extremities, and a maculopapular blanching rash. Petechial or purpuric rash, typical of meningococcal septicemia, occurs in 40%–80% of cases. However, a study from India revealed that rash was present in only 24% of meningococcal disease cases

Diagnosis /Testing Modalities

Early and accurate diagnosis of bacterial meningitis is crucial for effective management. Key diagnostic steps include:

1. **Clinical Assessment**: Initial evaluation based on presenting symptoms and physical examination findings.
2. **Lumbar Puncture**: The gold standard for diagnosing meningitis, involving the analysis of cerebrospinal fluid (CSF) for elevated white blood cell count, protein levels, and reduced glucose concentration. Essential for diagnosing meningitis and identifying causative organisms. Perform LP even if symptoms are not specific, especially in high-risk patients **.** **Minimal CSF Analysis includes**: Cell count, glucose, and protein levels.
3. **Microbiological Testing**:
    - **Gram Stain and Culture**: Identification of bacterial organisms.
    - **PCR**: Detection of bacterial DNA.
4. **Blood Cultures**: To identify bacteraemia associated with meningitis.
5. **Antigen Detection Tests**: For rapid identification of common pathogens like Streptococcus pneumoniae and Neisseria meningitidis.
6. **Imaging**: Neuroimaging techniques such as MRI or CT scans may be used to rule out complications or alternative diagnoses. Defer LP if there are signs of focal neurological deficits or increased intracranial pressure until head CT results are available. Ensure empiric antimicrobial therapy is initiated without delay, even before imaging**.**

Approach Considerations for Bacterial Meningitis

Empiric Therapy:

Prompt initiation of empiric antibiotic therapy is essential in suspected bacterial meningitis cases, even before definitive diagnosis.

- **Antibiotics:** Commonly prescribed antibiotics include third-generation cephalosporins for *S. pneumoniae* and *N. meningitidis*, ampicillin for *L. monocytogenes*, and vancomycin for penicillin-resistant strains of *S. pneumoniae* and *S. aureus*.
- **Immediate Action**: Initiate antibiotics and corticosteroids as soon as acute meningitis are suspected and after blood cultures are obtained.

The choice of antibiotics is based on patient age, clinical presentation, and local resistance patterns.

Empiric Therapy Regimens for Bacterial Meningitis: Common empiric regimens include:

Age-Based Regimens:

1. **Younger than 1 month:** Common pathogens: Group B Streptococcus (GBS), Escherichia coli, Listeria monocytogenes, Klebsiella species
    - Ampicillin 100 mg/kg plus cefotaxime 50 mg/kg q6h
    - OR Ampicillin 100 mg/kg plus an aminoglycoside (gentamicin 2.5 mg/kg or tobramycin 2.5 mg/kg) q8h
    - Cefotaxime 50 mg/kg q8h
2. **Age 1-23 months:** Common pathogens: Streptococcus pneumoniae, Neisseria meningitidis, Group B streptococcus (GBS), Haemophilus influenzae type b, E. coli
    - Vancomycin 15 mg/kg q6h plus a third-generation cephalosporin (ceftriaxone 75-100 mg/kg q12-24h or cefotaxime 75-100 mg/kg q6-8h)
3. **Age 2-50 years:** Common pathogens: Neisseria meningitides, Streptococcus pneumoniae
    - Children: Vancomycin 15 mg/kg q6h plus ceftriaxone 75-100 mg/kg q12-24h or cefotaxime 75-100 mg/kg q6-8h
        - Adults: Vancomycin 15 mg/kg q8h (to achieve trough levels of 15-20 µg/mL) plus ceftriaxone 2 g q12h or cefotaxime 2 g q4h
4. **Older than 50 years:** Common pathogens: Streptococcus pneumoniae, Neisseria meningitidis, Listeria monocytogenes, aerobic gram-negative rods
    - Vancomycin 15 mg/kg q8h (to achieve trough levels of 15-20 µg/mL) plus a third-generation cephalosporin (ceftriaxone 2 g q12h or cefotaxime 2 g q4-6h) plus ampicillin 2 g q4h (hourly if Listeria is suspected)

Regimens Based on Predisposing Conditions

- ✓ **Pregnancy:** Common pathogens: Listeria monocytogenes
    - Ampicillin 2 g q4h or penicillin G 4 million units q4h
- ✓ **Immunocompromised (e.g., chemotherapy, steroids):** Common pathogens: Streptococcus pneumoniae, Neisseria meningitidis, Listeria species, anaerobic gram-negative bacilli

- Vancomycin 15 mg/kg q8h (to achieve trough levels of 15-20 µg/mL) plus ampicillin 2 g q4h plus a third-generation cephalosporin (ceftriaxone 2 g q12h or cefotaxime 2 g q4-6h)

✓ **Basilar skull fracture:** Common pathogens: Streptococcus pneumoniae, Haemophilus influenzae, Streptococcus pyogenes

- Vancomycin 15 mg/kg q8h (to achieve trough levels of 15-20 µg/mL) plus a third-generation cephalosporin (ceftriaxone 2 g q12h or cefotaxime 2 g q4-6h)

Penetrating trauma or post-neurosurgery: Common pathogens: Staphylococcus aureus, Staphylococcus epidermidis, aerobic gram-negative bacilli

- Vancomycin 15 mg/kg q8h (to achieve trough levels of 15-20 µg/mL) plus cefepime 2 g q8h or ceftazidime 2 g q8h or meropenem 2 g q8h

✓ **Cerebrospinal fluid (CSF) shunt:** Common pathogens: Staphylococcus epidermidis, Staphylococcus aureus, aerobic gram-negative bacilli, Propionibacterium acnes

- Vancomycin 15 mg/kg q8h (to achieve trough levels of 15-20 µg/mL) plus cefepime 2 g q8h or ceftazidime 2 g q8h or meropenem 2 g q8h

Emergency Management:

- **Shock/Hypotension:** Administer crystalloid infusions to achieve euvolemia**.**
- **Altered Mental Status:** Implement seizure precautions and consider airway protection.
- **Stable Patients:** Provide oxygen, establish IV access, and ensure rapid transport to the emergency department (ED).

Complications Management:

- **Systemic Issues:** Address hypotension, hypoxemia, hyponatremia (SIADH), cardiac arrhythmias, ischemia, stroke, and exacerbation of chronic diseases**.**
- **Increased Intracranial Pressure (ICP):** Monitor for signs of hydrocephalus and increased ICP. Manage fever, pain, and seizures. Consider diuretics and hyperventilation in intubated patients to control ICP.

Key Points:

- **Early Treatment:** Begin treatment as early as possible to reduce morbidity and mortality.
- **Adjunctive Dexamethasone:** Consider administering dexamethasone before or with the first antibiotic dose in acutely ill patients**.**
- **Re-evaluation:** Watch for changes in CSF characteristics and patient condition, which may indicate the need for further intervention**.**

Outcomes

The outcome of bacterial meningitis depends on several factors, including the causative organism, timeliness of treatment, and patient characteristics. Despite appropriate therapy, complications such as hearing loss, neurological deficits, and cognitive impairments are common. The mortality rate remains significant, particularly in resource-limited settings.

Preventive Strategies

Preventing bacterial meningitis involves both primary and secondary measures.
Key strategies include:

Vaccination:

In 2012, the Government of India introduced the Pentavalent Vaccine (DPT + Hep B + Hib) in the Universal Immunization Programme (UIP), covering the entire country by 2017. Immunization against common pathogens such as Haemophilus influenzae type b (Hib), Streptococcus pneumoniae, and Neisseria meningitidis is critical to reduce the overall burden of disease.

- Vaccination and chemoprophylaxis are key preventive measures for meningitis. The Hib vaccine is recommended for susceptible individuals, while the pneumococcal vaccine is encouraged for those older than 65 and individuals with chronic cardiopulmonary illnesses. The efficacy of the pneumococcal conjugate vaccine in adults remains uncertain.
- Several meningococcal vaccines, including those for groups A, B, C, W, and Y, are available and recommended for individuals with asplenia, immune deficiencies, and travellers to endemic areas. Vaccination is also suggested for college students in dormitories. Updated guidelines advise a primary series and booster doses for adolescents and high-risk groups.
- The meningococcal serogroup B vaccine was approved in 2014 following trials showing significant antibody development against serogroup B strains. The ACIP recommends pneumococcal vaccination for children with high-risk medical conditions and adults aged 65 or older.
- Close monitoring of high-risk individuals is crucial to prevent the spread of invasive disease, even with chemoprophylaxis in place. Prophylaxis is suggested for close contacts of meningococcal cases and specific high-risk settings.

- **Prophylactic Antibiotics**: For close contacts of individuals with meningococcal meningitis.
  - Chemoprophylaxis is recommended for contacts of individuals with H. influenzae, N. meningitidis, or S. pneumoniae to reduce nasopharyngeal carriage and risk of disease.
    - Options include rifampin, ceftriaxone, and fluoroquinolones. For H. influenzae type b, rifampin is used, while chemoprophylaxis is typically unnecessary for contacts of patients with other bacterial meningitis types.

  The guideline-based regime for prophylactic antibiotics includes the following options:

  - **Ceftriaxone**: A single intramuscular (IM) dose of 250 mg for individuals aged 15 years and older, or 125 mg for those under 15 years.
  - **Rifampin**: 600 mg orally every 12 hours for 4 doses.
  - **Ciprofloxacin**: A single oral dose of 500 mg for adults, or 10 mg/kg (up to 600 mg) for children.
  - **Azithromycin**: A single oral dose of 500 mg for adults, or 15 mg/kg (up to 500 mg) for children.

    - Prophylaxis should ideally be administered within 24 hours of diagnosis of the index case. It's important to determine the most appropriate option based on individual circumstances and local resistance patterns

- **Public Health Measures**: Improving sanitation, reducing overcrowding, and increasing awareness about the disease.

Key Takeaways for EDPA Physicians

1. **Early Recognition**: Prompt identification and treatment of bacterial meningitis are critical to improving outcomes.
2. **Empiric Therapy**: Initiate appropriate empiric antibiotics as soon as bacterial meningitis is suspected.
3. **Vaccination**: Promote and administer vaccines to prevent infections by common causative organisms.
4. **Follow-Up**: Monitor patients for potential complications and provide appropriate rehabilitative services.
5. **Public Health**: Engage in public health initiatives locally to reduce the incidence and impact of bacterial meningitis.

7. Dietary recommendations for patients in the acute phase of myocardial infarction (MI) : Guidelines for clinicians

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Introduction

Nutrition plays a pivotal role in the management of myocardial infarction (MI), particularly during the acute phase when the heart's workload needs to be minimized to facilitate recovery. Proper dietary strategies can mitigate complications, support hemodynamic stability, and enhance overall outcomes. This document outlines the importance of dietary interventions, relevant guidelines, and key takeaways for clinicians managing these cases.

Why is Proper Nutrition Important During Acute MI?

1. Cardiovascular Recovery:
    - Nutritional modifications help reduce myocardial oxygen demand, control blood pressure, and manage lipid levels.
2. Prevention of Complications:
    - Reducing sodium intake can lower the risk of fluid overload, while avoiding stimulants prevents arrhythmias.
3. Energy and Healing:
    - A balanced diet ensures adequate energy, vitamins, and minerals required for tissue repair and overall recovery.
4. Psychological Support:
    - Guidance on a heart-healthy diet reassures patients and instils confidence in long-term lifestyle changes.

What Do the Guidelines Recommend?

The National and International Cardiac Societies, including the American Heart Association (AHA) and European Society of Cardiology (ESC), emphasize the following:

1. **Immediate Post-MI Phase:**
    - Begin with small, easily digestible meals to reduce metabolic stress.

- Avoid heavy, high-fat, or large meals as they increase cardiac workload.

2. **Nutritional Composition:**
   - Low Sodium (<2g/day): Reduces fluid retention and controls blood pressure.
   - Moderate Protein: Supports healing but avoids kidney strain.
   - Limited Saturated Fats and Cholesterol: Prefer unsaturated fats like olive oil or omega-3 fatty acids.
   - High Fiber: Focus on soluble fibre to improve lipid profiles and support digestion**.**

3. **Restrictions:**
   - Avoid caffeinated beverages, alcohol, and stimulants.
   - Restrict processed foods to minimize salt and unhealthy fat intake.

4. **Hydration:**
   - Maintain adequate fluid intake but monitor for signs of fluid overload in cases of heart failure.

5. **Vitamin and Mineral Intake:**
   - Include foods rich in potassium, magnesium, and antioxidants to support cardiac function and recovery.

From Day 1–Day 6:
Focus on reducing cardiac workload, preventing complications, and promoting recovery. The diet should be light, easily digestible, and heart-healthy, with a gradual progression as the patient stabilizes.

General Principles

1. Avoid Overloading the Heart:
   • Provide small, frequent meals to reduce metabolic demand.
   • Avoid heavy, fatty, or gas-forming foods that can increase gastrointestinal workload and discomfort.

2. Ensure Nutritional Adequacy:
   • Supply essential nutrients to support healing and energy needs.

3. Reduce Sodium and Fluid Retention:
   • Limit sodium to prevent fluid overload and hypertension.

4. Promote Cardiovascular Health:
   • Minimize saturated fats, trans fats, and cholesterol.
   • Emphasize foods rich in fibre, vitamins, and minerals.

Diet Progression by Day

Day 1–2: NPO or Clear Liquids (if unstable)

- Patients may remain NPO (nothing by mouth) immediately after the MI if they are unstable or undergoing procedures.
- Once stable:
- Introduce clear liquids, such as:
- Water.
- Clear broths (low sodium).
- Herbal teas (caffeine-free).
- Diluted fruit juices (without added sugar).
- Avoid caffeinated or carbonated beverages to prevent cardiac stimulation and bloating.

Day 3–4: Soft, Low-Fat Diet (Light Meals)

- Transition to a soft, low-fat diet:
- Well-cooked, mashed vegetables (e.g., carrots, potatoes).
- Soft fruits (e.g., applesauce or bananas).
- Lean protein sources, such as boiled or poached chicken (no skin), fish, or eggs (boiled or poached).
- Whole-grain cereals or porridge.
- Low-fat dairy (e.g., skim milk or yogurt).
- Continue limiting sodium (<2 grams/day).

Day 5–6: Heart-Healthy Diet

- Gradually introduce more variety while maintaining a heart-healthy approach:
- Add whole grains (e.g., brown rice, oats, quinoa).
- Include fresh fruits and vegetables (avoid high-sodium canned options).
- Use healthy fats (e.g., small amounts of olive oil or nuts).
- Incorporate plant-based proteins like lentils, chickpeas, or tofu.
- Encourage adequate hydration (water) unless restricted due to heart failure or fluid overload.

Foods to Avoid in Acute MI

1. High-Sodium Foods:
    - Salted snacks, processed foods, canned soups, pickles, and fast food.
2. High-Saturated or Trans Fat Foods:
    - Butter, cream, fried foods, baked goods, and fatty cuts of meat.
3. Sugary Foods and Beverages:
    - Sweets, desserts, sugary sodas, and juices with added sugar.
4. Caffeinated and Stimulant Foods:
    - Coffee, strong tea, energy drinks, or chocolate.
5. Gas-Producing Foods:
    - Cabbage, beans, and carbonated drinks, which can cause bloating and discomfort.

Additional Recommendations

- Monitor Potassium and Electrolytes:
    - Important for cardiac function; ensure levels are balanced (e.g., bananas, potatoes, and leafy greens if potassium is low).

- Individualize Diet:
    - Tailor to the patient's underlying conditions (e.g., diabetes, kidney disease).

- Consult a Dietitian:
    - For personalized meal planning and education.

- Lipids:
    - The AHA Step II diet, which is low in saturated fat and cholesterol (less than 7% of total calories as saturated fat and less than 200 mg/d cholesterol), should be instituted in all patients after recovery from acute MI.
    - Patients with LDL cholesterol levels greater than 125 mg/dL despite the AHA Step II diet should be placed on drug therapy with the goal of reducing LDL to less than 100 mg/dL.
    - Patients with normal plasma cholesterol levels who have a high-density lipoprotein (HDL) cholesterol level less than 35 mg/dL should receive nonpharmacological therapy (e.g., exercise) designed to raise it.

A gradual and cautious approach ensures the patient transitions safely from acute care to a maintenance diet that supports long-term cardiovascular health.

Key Takeaways for Physicians

- **Individualized Nutrition Plans**: Tailor dietary recommendations based on patient comorbidities, such as diabetes or renal insufficiency.
- **Dietary Counselling**: Collaborate with dietitians to reinforce compliance with heart-healthy diets.
- **Patient Monitoring**: Regularly assess for signs of malnutrition, fluid imbalance, or worsening cardiac function.
- **Long-term Guidance**: Use the acute phase as a starting point for lifelong dietary and lifestyle modifications to prevent recurrence.

References:

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2) Szczepańska E, Gacal M, Sokal A, Janota B, Kowalski O. Diet in Patients with Myocardial Infarction and Coexisting Type 2 Diabetes Mellitus. Int J Environ Res Public Health. 2023 Apr 7;20(8):5442. doi: 10.3390/ijerph20085442. PMID: 37107724; PMCID: PMC10138621.

8. Choosing Injectable Therapies for Type 2 Diabetes in Clinical Practice: A Basic Guide for Physicians

Dr RPS Makkar, MD Medicine, Senior Consultant Physician

Introduction

Managing type 2 diabetes effectively often requires a stepwise approach, progressing from oral anti-diabetic agents to injectables when glycemic targets are unmet. Injectable therapies, including insulin and non-insulin options, play a pivotal role in improving glycemic control. For Indian physicians navigating the diverse and growing array of injectable therapies, understanding their features, efficacy, safety, and appropriate selection criteria is critical.

Injectable Options for Type 2 Diabetes Management

The 2 injectable therapies in T2DM include:

1. **Insulin Preparations**

   - **Basal Insulin**: Glargine (Lantus), Detemir, Degludec (Tresiba), NPH
   - **Prandial Insulin**: Aspart, Lispro, Glulisine, Regular Insulin
   - **Premixed Insulin**: Biphasic insulin (e.g., 70/30, 50/50 mixtures), Ryzodeg

2. **GLP-1 Receptor Agonists (GLP-1 RAs)**

   - **Short-acting GLP-1 RAs**: Exenatide, Lixisenatide
   - **Long-acting GLP-1 RAs**: Dulaglutide, Liraglutide

   Each class has unique pharmacological properties, and understanding their nuances is critical to tailoring therapy to patient needs.

FDC combination of Insulin and GLP1RA:

Both products mentioned below combine a long-acting /basal insulin with a GLP-1 agonist –

- ✓ **IdegLira** – (**Xultophy** 100/3.6) (insulin degludec and liraglutide) subQ injection 100 units/mL and 3.6 mg/mL is a combination of insulin degludec and liraglutide and is indicated as an adjunct to diet and exercise to improve glycemic control in adults with type 2 diabetes mellitus. It is priced at around 5735 Rs per pen.

- ✓ **IglarLixi-** (**Soliqua)** is a once-daily injectable blend of insulin glargine 100 Units/ml, a long-acting basal insulin, and lixisenatide, a GLP-1 receptor agonist. Priced at around 1850 Rs per pen, Soliqua is recommended as a once daily subQ injectable therapeutic option for adults diagnosed with both obesity and type 2 diabetes mellitus. It is prescribed to enhance glycaemic control alongside dietary and exercise regimens, particularly in individuals whose condition remains inadequately managed despite prior oral or injectable treatments.

Key Considerations When Choosing Injectable Therapies in T2DM

1. **Glycemic Goals and Patient Profile**

   - **Insulin** is indicated for patients with significant hyperglycemia, particularly with HbA1c >9% or acute complications such as hyperosmolar states.
   - **GLP-1 RAs** are preferred in patients with mild-to-moderate hyperglycemia inadequately controlled with oral agents and who would benefit from weight loss or cardiovascular risk reduction.

2. **Safety Profiles**

   - **Hypoglycemia Risk**: Basal insulins (e.g., Degludec, Glargine U300) carry a lower risk of nocturnal hypoglycemia compared to older formulations. GLP-1 RAs, due to their glucose-dependent action, are associated with minimal hypoglycemia unless combined with sulfonylureas or insulin.
   - **Side Effects**: GI disturbances (nausea, vomiting) are common with GLP-1 RAs but tend to subside over time. Insulin use can contribute to weight gain.

3. **Cardiovascular and Renal Outcomes**

   - GLP-1 RAs like Liraglutide have demonstrated cardiovascular benefits in large-scale trials (LEADER, SUSTAIN). Dulaglutide has shown renoprotective effects in the REWIND trial.
   - Insulins have a neutral cardiovascular profile but may not confer additional protective benefits.

4. **Weight Impact**

   - **Weight Gain**: Common with insulin therapy, particularly premixed formulations.
   - **Weight Neutral or Reduction**: GLP-1 RAs are beneficial for weight-conscious patients due to their appetite-suppressing properties.

5. **Ease of Use and Adherence**

- **Frequency of Administration**: Long-acting insulins and weekly GLP-1 RAs like Dulaglutide enhance adherence by reducing injection frequency.
- **Device and Delivery**: Pre-filled pens and ease of self-administration are essential considerations.

6. Cost and Accessibility

- GLP-1 RAs, though effective, may be cost-prohibitive for many patients in India. Insulin remains a more accessible option, with biosimilar versions reducing the cost burden.

Evidence-Based Insights on Safety and Efficacy

Insulin

- Modern basal insulins like Degludec and GlargineU300 (Toujeo) have demonstrated improved safety (reduced hypoglycemia) in clinical trials as well as real word experience without compromising efficacy.

GLP-1 Receptor Agonists

- Numerous randomized controlled trials of GLP1 Ras underscore their efficacy in reducing HbA1c by 1-1.5% and their cardiovascular and renal benefits. They are increasingly preferred for patients with type 2 diabetes and comorbidities.
- While injectable Semaglutide (Wegovy, Ozempiq) is not yet available in India, oral formulation of Semaglutide (Rybelsus, Novo Nordisk) is available as once a day tablet in 3, 7 and 14 mg tablets for use in T2Dm with obesity.

Key Takeaways for EDPA Physicians

1. **Individualize Therapy**: Select injectables based on glycemic needs, patient comorbidities, risk of hypoglycemia, and weight goals.
2. **Consider Cardiovascular Benefits**: Opt for GLP-1 RAs in patients with established cardiovascular disease.
3. **Minimize Side Effects**: Use long-acting basal insulins to reduce hypoglycemia risk and GLP-1 RAs to manage weight gain. Use combination (Soliqua or Xultophy)
4. **Evaluate Costs**: Ensure affordability and patient adherence by balancing cost and therapeutic benefits.
5. **Educate Patients**: Explain the rationale for injectable therapy, proper administration techniques, and potential side effects to empower patients in their diabetes management journey.

   By considering these factors, EDPA physicians can optimize outcomes for their patients with type 2 diabetes, balancing efficacy, safety, and patient-centric care

9. Emerging Once-Weekly Therapies for Diabetes, Obesity, Dyslipidemia, and cardiovascular diseases: Bridging Gaps in Current Management

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Background:
The burden of chronic diseases such as diabetes, dyslipidemia, and cardiovascular diseases (CVDs) continues to rise globally. Current therapeutic options, while effective, often face challenges of adherence, patient convenience, and comprehensive risk reduction. Once-weekly therapies represent a promising advancement, offering a practical solution to improve adherence and outcomes. This article highlights the gaps in existing therapies and reviews the evidence supporting once-weekly treatments in clinical development or currently approved.

Current Gaps in Chronic Disease Management

1. **Suboptimal Adherence**:
   Adherence to daily medications, particularly in diabetes and dyslipidemia, remains a significant challenge due to complexity, side effects, and pill burden. Poor adherence compromises therapeutic outcomes and increases the risk of complications.

2. **Limited Cardiometabolic Benefits**:
   Many therapies target singular endpoints (e.g., glycemic control or lipid-lowering) without addressing the broader cardiometabolic spectrum.

3. **Patient Burden**:
   Frequent dosing schedules and injectable formulations requiring daily or multiple weekly administrations are less patient-friendly and increase the likelihood of missed doses.

4. **Clinical Efficacy in Diverse Populations**:
   Existing therapies often lack robust efficacy data across different ethnicities, including South Asians, who have unique cardiometabolic risk profiles.

Once-Weekly Therapies: A Game-Changer

Diabetes Management

- **Once-Weekly Injectable GLP1 RA (Semaglutide)** (not yet approved or available India)

Overview

Semaglutide, a GLP-1 receptor agonist (GLP-1 RA), is a groundbreaking therapy for type 2 diabetes (T2D) and obesity. Wegovy and Ozempiq are injectable formulations of Semaglutide available in EU , USA and other major countries , but are not yet approved in India. Administered once weekly as a subQ injection, injectable Semaglutide enhances glycaemic control and promotes weight loss while offering cardiovascular benefits.

1. **WEGOVY® (semaglutide)** injection 2.4 mg is an injectable prescription medicine used with a reduced calorie diet and increased physical activity:

- to reduce the risk of major cardiovascular events such as death, heart attack, or stroke in adults with known heart disease and with either obesity or overweight.
- that may help adults and children aged 12 years and older with obesity, or some adults with overweight who also have weight-related medical problems, to help them lose excess body weight and keep the weight off.
- **The starting dose is 0.25 mg once a week**, which is gradually increased every four weeks. The maintenance dose usually by 5 months is 1.7 mg or 2.4 mg per week. It is available in 0.25, 0.5, 1, 1.7, 2.4 mg strengths as single dose prefilled syringes.

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2. **OZEMPIC® (semaglutide)** injection 0.5 mg, 1 mg, or 2 mg is an injectable prescription medicine used:

✓ along with diet and exercise to improve blood sugar (glucose) in adults with type 2 diabetes

✓ to reduce the risk of major cardiovascular events such as heart attack, stroke, or death in adults with type 2 diabetes with known heart disease

- **Ozempic® is taken once a week, along with diet and exercise, to lower blood sugar in adults with type 2 diabetes.**

Approval Status

- **Approved Indications**: Wegovy is approved as an antiobesity medication (irrespective of whether the patient has T2 DM or not) while Ozempic is approved only in T2 DM patients for Glycemic control in adults with T2D, and cardiovascular risk reduction in patients with established cardiovascular disease.
- As of Dec 2024, Injectable semaglutide (Wegovy or Ozempic) are not yet approved or available in India but oral formulation (Rybelsus, 3,7,14 mg tablet) is approved and available for use in T2DM patients .
- **Regulatory Approvals**: FDA (2017), EMA (2018); DCGI in India has approved once daily oral semaglutide but not injectable semaglutide .

Efficacy

- The SUSTAIN and PIONEER trials established once weekly semaglutide's efficacy in HbA1c reduction, weight loss, and cardiovascular protection.
- **Glycemic Control**: Semaglutide reduces HbA1c by 1.5–2.0% from baseline, as demonstrated in the SUSTAIN trials.
- **Weight Loss**: Patients experience weight reductions of 4–6 kg on average, attributed to reduced appetite and delayed gastric emptying.
- **Cardiovascular Outcomes**: In the SUSTAIN-6 trial, semaglutide reduced the risk of major adverse cardiovascular events (MACE) by 26%.

Safety Profile

- **Common Adverse Effects**: Gastrointestinal issues such as nausea, vomiting, and diarrhea, which typically improve with continued use.
- **Serious Risks**: A potential association with thyroid C-cell tumors in animal studies, though not confirmed in humans. Contraindicated in patients with a personal or family history of medullary thyroid carcinoma.

Dosing Regimen

- Initial dose: 0.25 mg subcutaneously once weekly.
- Titration: Increase to 0.5 mg after 4 weeks, and to a maximum of 1 mg or 2 mg depending on glycemic needs.

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3. Tirzepatide (Dual GIP/GLP-1 RA)

Overview

Tirzepatide is a novel dual incretin receptor agonist targeting both GLP-1 (glucagon-like peptide-1) and GIP (glucose-dependent insulinotropic polypeptide) receptors. GIP and GLP-1 are natural incretin hormones responsible for regulating blood sugar levels in response to eating food. GIP is responsible for the majority of this activity which is known as the incretin effect in people without type 2 diabetes. The incretin effect enhances the release of insulin after a meal and helps lower blood sugar.

Mounjaro (tirzepatide, Eli Lilly) 2.5 mg, 5 mg, 7.5 mg, 10 mg, 12.5 mg, and 15 mg per 0.5 mL injection, is a prescription medicine for adults with type 2 diabetes used along with diet and exercise to improve blood sugar (glucose). It offers superior glycemic control, significant weight loss, and a broader cardiometabolic benefit profile compared to GLP-1 RAs. It is a single molecule designed to bind to glucose-dependent insulinotropic polypeptide (GIP) and glucagon-like peptide-1 (GLP-1) receptor agonists

Approval Status

- **Approved Indications**: Glycemic management in T2D (FDA approval: May 2022, brand name *Mounjaro*). It is not yet approved or available in India.
- **Under Investigation**: Obesity management and cardiovascular risk reduction (ongoing SURMOUNT trials).

Efficacy

- The SURPASS program highlighted significant glycemic and weight benefits over existing GLP-1 RAs and insulin comparators.
- **Glycemic Control**: In the SURPASS program, tirzepatide achieved HbA1c reductions of 2.0–2.5%, outperforming semaglutide.
- **Weight Loss**: Patients lost up to 15% of body weight, with doses of 15 mg showing the greatest efficacy.
- **Cardiometabolic Impact**: Significant improvements in lipid profiles and inflammatory markers suggest cardiovascular risk reduction, though outcomes trials are pending.

Safety Profile

- **Common Adverse Effects**: GI disturbances similar to GLP-1 RAs.
- **Potential Risks**: Increased risk of hypoglycemia when combined with sulfonylureas or insulin. Pancreatitis and gallbladder disease have been reported in rare cases.

Dosing Regimen

- Initial dose: 2.5 mg subcutaneously once weekly for 4 weeks.
- Titration: Increase to 5 mg, 10 mg, or 15 mg based on tolerance and glycemic needs.

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4. **Rutatride (Triple GIP/GLP-1 R/GIP Agonist)**

Overview

Rutatride is an investigational triple agonist combining GIP, GLP-1, and glucagon receptor activity. It represents the next frontier in incretin-based therapies, aiming to address glycemic control, weight loss, and broader metabolic benefits.

Approval Status

- **Clinical Development**: Currently in Phase 2 clinical trials.
- **Pending Indications**: Glycemic management and obesity in patients with T2D.

Efficacy

- **Glycemic Control**: Preliminary studies indicate HbA1c reductions of 2.0–2.5%, potentially matching or exceeding tirzepatide.
- **Weight Loss**: Significant weight reductions exceeding 15% are observed in early trials, making it a promising option for obese patients with diabetes.
- **Metabolic Benefits**: Improvements in lipid profiles and liver enzymes suggest utility in addressing non-alcoholic fatty liver disease (NAFLD) and cardiovascular risks.

Safety Profile

- **Adverse Effects**: Similar to GLP-1 and dual agonists, with GI side effects being most common.
- **Unknown Risks**: Long-term safety, including cardiovascular and oncological outcomes, is yet to be established.

Dosing Regimen

- Dose-ranging studies are ongoing, exploring weekly subcutaneous administrations of varying strengths. Early data suggest a titration strategy to optimize efficacy while minimizing adverse effects.

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5. **MariTide**

MariTide (Amgen) is a bispecific glucagon-like peptide 1 (GLP-1) receptor agonist and glucose-dependent insulinotropic polypeptide receptor (GIPR) antagonist being investigated for the treatment of obesity and Type 2 diabetes mellitus. As a pioneering antibody-peptide conjugate molecule with a long half-life and dual mechanism of action, MariTide may allow for greater durability or reduce the likelihood of weight rebound after treatment stops. Pre-clinical studies have demonstrated that simultaneously activating GLP-1 and inhibiting GIP pathways had a stronger effect on weight loss than targeting either GLP-1 or GIP receptors alone.

In a double-blind, dose-ranging Phase 2 study with MariTide (maridebart cafraglutide, formerly AMG 133) In people living with obesity or overweight without Type 2 diabetes, MariTide demonstrated up to ~20% average weight loss at week 52 without a weight loss plateau, indicating the potential for further weight loss beyond 52 weeks.

The trial enrolled 592 adults included two Cohorts of people living with obesity or overweight. Cohort A enrolled participants without a diagnosis of Type 2 diabetes, Cohort B participants had Type 2 diabetes. In Part 1, participants in Cohort A (n=465), without Type 2 diabetes, were assigned to one of four monthly fixed dose arms (placebo, 140 mg, 280 mg, 420 mg) or an 8-week 420 mg dose arm. There were also two dose escalation arms with either 4-week or 12-week dose escalation periods to a target dose of 420 mg. Adults in Cohort B (n=127), with type 2 diabetes, were assigned to one of four monthly fixed dose arms (placebo, 140 mg, 280 mg and 420 mg). At the end of Part 1, participants who met eligibility criteria (at least 15% weight loss at week 52 and still taking investigational product) had the option to enter Part 2 of the study. MariTide Demonstrated up to ~20% Average Weight Loss at 52 Weeks Without a Weight Loss Plateau in People Living With Obesity or Overweight.

The study also showed people living with obesity or overweight and Type 2 diabetes, who typically lose less weight on GLP-1 therapies, achieved up to ~17% average weight loss, also without a weight loss plateau, and lowered their average hemoglobin A1C (HbA1c) by up to 2.2 percentage points at week 52.[1] In summary, in both study populations, a weight loss plateau was not observed, again indicating the potential for further weight loss beyond 52 weeks.

MariTide also demonstrated robust and clinically meaningful improvements in cardiometabolic parameters, including blood pressure, triglycerides and high-sensitivity C-reactive protein (hs-CRP) across doses. There were no significant increases in free fatty acids.

The ongoing Part 2 of the Phase 2 study is investigating MariTide beyond 52 weeks to evaluate further weight loss with continued treatment, weight maintenance through less frequent or lower dosing and durability of weight loss after discontinuation of MariTide. More than 90% of eligible patients chose to continue to participate in Part 2 of the study.

MariTide is expected to be delivered as a single dose in a convenient, handheld, patient-friendly, autoinjector device with a monthly or less frequent single-injection administration. **MariTide is the First Obesity Treatment With Monthly or Less Frequent Dosing to Demonstrate Safe and Effective Weight Loss in a Phase 2 Study**

These once-weekly injectable therapies (semaglutide, tirzepatide, and rutatride) , and monthly injectable therapies (MariTide)—represent a paradigm shift in diabetes/obesity/ management. By combining robust efficacy, safety, and patient convenience, they offer innovative solutions to address unmet needs in diabesity care. Ongoing research and post-marketing surveillance is ongoing and will further clarify their role in clinical practice.

Once weekly Basal Insulins (e.g., Insulin Icodec):
Insulin Icodec, a once-weekly basal insulin in clinical trials, has shown non-inferiority to daily basal insulins in achieving glycemic targets with a comparable safety profile. This innovation simplifies insulin regimens, potentially improving adherence.

As a once-weekly alternative to daily basal insulin, icodec is expected to improve patient adherence and satisfaction, reducing the required number of injections per year from 365 to 52 and providing a dosing option potentially attractive to a wide range of insulin users

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Dyslipidemia Management

- **Evinacumab**:
  A monoclonal antibody targeting angiopoietin-like protein 3 (ANGPTL3), evinacumab offers LDL-C reduction in patients with refractory hypercholesterolemia, including homozygous familial hypercholesterolemia. Its once-weekly dosing is a significant advancement for this population.

- **Inclisiran (PCSK9 Inhibitor)**:
  Although dosed biannually, inclisiran lays the groundwork for less frequent dosing. Research is exploring the feasibility of developing weekly PCSK9-targeted therapies for broader lipid management. It is Indicated as an adjunct to diet and statin therapy for adults with primary hyperlipidemia, including heterozygous familial hypercholesterolemia (HeFH), to reduce low-density lipoprotein cholesterol (LDL-C) . Dose is 284 mg SC x 1 dose initially; Repeat in 3 months and then every 6 months thereafter

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Cardiovascular Disease

- **Long-Acting SGLT-2 Inhibitors**:
  Once-weekly formulations of SGLT-2 inhibitors, currently in development, aim to provide the same renal and cardiovascular protective effects with improved adherence.
- **Novel Anticoagulants**:
  For atrial fibrillation and other thromboembolic disorders, weekly anticoagulants such as factor Xa inhibitors in early trials may address the challenges of daily dosing in long-term therapy.

Scientific Evidence Supporting Once-Weekly Therapies

Dyslipidemia

- **Evinacumab**: Phase III trials demonstrated a 50% LDL-C reduction in patients with refractory hypercholesterolemia.
- **Inclisiran**: ORION studies confirmed LDL-C reductions of 50–60%, providing a foundation for less frequent dosing regimens.

Cardiovascular Disease

- **SGLT-2 Inhibitors**: Evidence from EMPA-REG OUTCOME and DAPA-HF trials supports the cardiovascular benefits of this class, paving the way for once-weekly formulations.

Benefits of Once-Weekly Therapies

1. **Enhanced Adherence**:
   Simplified regimens reduce the likelihood of missed doses, particularly for patients managing multiple chronic conditions.
2. **Comprehensive Cardiometabolic Management**:
   Drugs like tirzepatide address multiple risk factors, including glycemia, weight, and lipid profiles, aligning with the holistic needs of cardiometabolic patients.
3. **Reduced Healthcare Burden**:
   Less frequent dosing reduces patient visits and monitoring; alleviating healthcare system demands.

Challenges and Future Directions

- **Cost**: Once-weekly therapies, especially biologics, may be prohibitively expensive for many patients in low- and middle-income countries.
- **Access and Awareness**: Broader education among healthcare providers and patients is necessary to optimize the adoption of these therapies.
- **Long-Term Safety**: Robust post-marketing surveillance is crucial to ensure the safety of these novel therapies over extended periods.

Key Takeaways for EDPA Physicians

1. **Patient-Centric Approach**: Evaluate individual patient needs, adherence barriers, and risk profiles when considering once-weekly therapies.
2. **Efficacy and Evidence**: Leverage evidence from clinical trials to align therapeutic choices with patient-specific goals.
3. **Monitor Advances**: Stay informed about ongoing developments in long-acting formulations to provide state-of-the-art care.

Once-weekly therapies represent a paradigm shift in managing diabetes, dyslipidemia, and cardiovascular diseases, promising to fill critical gaps in adherence, efficacy, and patient convenience. However, their potential can only be realized through careful integration into clinical practice, supported by robust evidence and patient education.

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10. India's Unprecedented Success in Controlling and Eradicating Infectious Diseases Over the Last Two Decades

Dr SK Gupta, Senior Consultant Physician

Background
India has achieved remarkable success in controlling and eradicating infectious diseases over the last two decades, demonstrating the country's significant strides in public health. These indicators reflect substantial progress in India's healthcare sector, paving the way for the nation to become a developed country in terms of health.

Impact on National Development
Improvements in healthcare not only enhance quality of life but also bolster economic growth, social stability, and India's global standing. A healthy population is vital for a developed nation, and the reduction in infectious diseases marks a significant milestone on this path.

However, to become a fully developed nation, India must focus on other sectors, including education, infrastructure, economic reforms, and social equality. Still, these health advancements provide a strong foundation for future development.

India's Progress in Key Infectious Diseases: Achievements and WHO Goals

Presented below are the advancements India has made in controlling infectious diseases, alongside WHO-established goals and India's approach to achieving them:

1. Malaria

Reduction in Cases:
According to the National Vector Borne Disease Control Program (NVBDCP), malaria cases have significantly reduced from approximately 2 million in 2000 to 157,000 in 2022.

Data from NFHS-5 indicates increased access to insecticide-treated nets, which has contributed to this decline.

WHO Goal:
WHO aims to reduce malaria cases and mortality by at least 90% by 2030. India's National Malaria Elimination Framework targets malaria elimination (zero indigenous cases) by 2030.

2. Leishmaniasis (Kala-Azar)

Reduction in Cases:
India has made significant progress, reducing annual cases from over 44,000 in 2007 to fewer than 1,000 by 2022.

NFHS-5 data highlights improved treatment and vector control measures reaching remote areas.

WHO Goal:
WHO aims to eliminate visceral leishmaniasis as a public health problem by reducing annual incidence to fewer than 1 case per 10,000 people. India has largely achieved this and is focusing on sustaining these achievements.

3. Tuberculosis (TB)

Reduction in Cases:
India reduced TB incidence from 217 cases per 100,000 population in 2015 to 193 in 2022, as reported in the India TB Report 2023.

NFHS-5 data shows improved diagnostic and treatment rates contributing to this decline.

WHO Goal:
WHO's End TB Strategy aims to reduce TB deaths by 90% and TB incidence by 80% by 2030. India has set an ambitious target to eliminate TB by 2025, ahead of the global goal.

4. Polio

Reduction in Cases:
India has maintained its polio-free status since 2014, with no new cases reported since.

WHO Goal:
The global goal is to eradicate polio completely, ensuring no resurgence through continued vaccination campaigns. India remains committed to maintaining its polio-free status.

5. HIV/AIDS

Reduction in Cases:
Between 2010 and 2021, new HIV infections in India declined by 37%. According to NACO, adult HIV prevalence decreased from 0.34% in 2007 to 0.22% in 2021.

NFHS-5 data highlights increased awareness and coverage of antiretroviral therapy (ART).

WHO Goal:
WHO's 90-90-90 targets aim for 90% of people living with HIV to know their status, 90% of diagnosed individuals to receive ART, and 90% of those on ART to achieve viral suppression. The ultimate goal is to eliminate AIDS as a public health threat by 2030.

6. Maternal and Neonatal Tetanus (MNT)

Reduction in Cases:
India was declared MNT-free in 2015. NFHS-5 data reflects high vaccination coverage, contributing to this achievement.

WHO Goal:
WHO's global target was to eliminate MNT as a public health problem by 2015. India met this target and continues to focus on maintaining the achievement through high vaccination coverage and safe delivery practices.

7. Lymphatic Filariasis

Reduction in Cases:
India has significantly reduced the prevalence of lymphatic filariasis, with several states reporting prevalence below 1% by 2022.

NFHS-5 data shows the success of Mass Drug Administration (MDA) campaigns in reducing the disease burden.

WHO Goal:
WHO aims to eliminate lymphatic filariasis as a public health problem by 2030. India targets elimination by 2025, focusing on MDA campaigns and disease management.

Summary

India has made remarkable progress in controlling infectious diseases, as evidenced by significant reductions in cases and near or full achievement of WHO goals. Targeted public health strategies, including vaccination, access to treatment, and vector control, have been instrumental in these accomplishments. Sustained efforts will be essential to maintaining these gains and achieving full eradication.

Sources

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    A: NVBDCP Malaria Data
    B: WHO Malaria Strategy 2016-2030

2. Leishmaniasis

A: NVBDCP Kala-Azar Elimination Program
B: WHO Leishmaniasis Fact Sheet

3. Tuberculosis
   A: India TB Report 2023
   B: WHO End TB Strategy

4. Polio
   A: India Polio Eradication Program
   B: WHO Global Polio Eradication Initiative

5. HIV/AIDS
   A: NACO Annual Report 2021-22
   B: UNAIDS 90-90-90 Goals

6. MNT
   A: WHO MNT Elimination

7. Lymphatic Filariasis
   A: NVBDCP Lymphatic Filariasis Elimination
   B: WHO LF Elimination Program

11. Towards Holistic Care in CKD: Integrative Management for Better Outcomes

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Introduction

Chronic kidney disease (CKD) poses a significant global health challenge, impacting approximately 10% of the global population and ranking as the 12th leading cause of mortality worldwide. In India, CKD is also on the rise due to various factors including an aging population, high rates of diabetes and hypertension, limited healthcare access in rural areas, and environmental issues such as air pollution and inadequate sanitation. It is generally estimated that about 10% Indian population is suffering from some form of kidney disease. Also, out of approximately 100 million Indians afflicted with diabetes, close to 40 million have associated kidney disease. All these can potentially lead to an advanced stage of kidney disease leading to significant health and economic burden. Needless to say, the answer to the problem lies in its prevention. Addressing this escalating burden requires a collaborative, multidisciplinary holistic approach focusing on preventive measures, early detection, and retarding the disease progression.

CKD is defined as abnormalities of kidney structure or function, present for >3 months, with implications for health. Criteria for CKD (either of the following present for >3 months) involves decreased GFR 30 mg/g), urine sediment abnormalities, electrolyte and other abnormalities due to tubular disorders, abnormalities detected by histology, structural abnormalities detected by imaging, and history of kidney transplantation.

CKD is classified based on Cause, GFR category, and Albuminuria category (CGA): Assign cause of CKD based on presence or absence of systemic disease and the location within the kidney of observed or presumed pathologic-anatomic findings. Assign GFR and albuminuria categories as follows in figure.

- Green: low risk (if no other markers of kidney disease, no CKD);

- Yellow: moderately increased risk;
- Orange: high risk;
- Red, very high risk.

Integrative Management of chronic kidney disease Dietary intervention

The Kidney Disease Outcomes Quality Initiative (KDOQI) 2020 emphasizes regular nutrition screening every six months for adults with CKD stages 1-5D and post-transplantation to identify those at risk of protein-energy wasting.

KDIGO: Prognosis of CKD by GFR and albuminuria categories

GFR categories (ml/min/1.73 m²) Description and range				Persistent albuminuria categories Description and range		
				A1	A2	A3
				Normal to mildly increased	Moderately increased	Severely increased
				<30 mg/g <3 mg/mmol	30–300 mg/g 3–30 mg/mmol	>300 mg/g >30 mg/mmol
	G1	Normal or high	≥90			
	G2	Mildly decreased	60–89			
	G3a	Mildly to moderately decreased	45–59			
	G3b	Moderately to severely decreased	30–44			
	G4	Severely decreased	15–29			
	G5	Kidney failure	<15			

Green: low risk (if no other markers of kidney disease, no CKD); Yellow: moderately increased risk; Orange: high risk; Red: very high risk. GFR, glomerular filtration rate.

Comprehensive nutrition assessments, including factors like appetite, dietary history, weight, biochemical markers, and physical indicators, should be conducted within 90 days of dialysis initiation and repeated annually or as needed. For maintenance hemodialysis (MHD) patients, body composition assessment using multi-frequency bioelectrical impedance (MF-BIA) post-dialysis is recommended, with dualenergy X-ray absorptiometry (DXA) as the gold standard when feasible. Regular monitoring of body weight, BMI, and composition should align with the patient's clinical stability and CKD stage.

Biomarkers such as normalized protein catabolic rate (nPCR), serum albumin, and prealbumin, alongside tools like handgrip strength, the 7-point Subjective Global Assessment, and Malnutrition Inflammation Score (MIS), help assess nutritional status but require a holistic interpretation. Evaluating Medical Nutrition Therapy (MNT) involves tracking appetite, dietary intake, body weight, biochemical data, anthropometric measures, and physical findings.

Dietary recommendations include protein restriction tailored to individual needs, adopting a Mediterranean diet, and increasing fruit and vegetable consumption. For CKD patients, protein intake guidelines vary: 0.55- 0.60 g/kg/day or 0.28-0.43 g/kg/day with supplements for slowing disease progression, 0.6-0.8 g/kg/day for diabetic CKD patients, and 1.0-1.2 g/kg/day for those on maintenance dialysis, with adjustments for diabetic patients prone to glucose fluctuations. In India, where protein intake is generally low, assessing nutritional status is critical before recommending protein restrictions, ensuring the diet aligns with patients' habits and needs. For CKD stage 5D patients with insufficient dietary intake, supplementation with water-soluble vitamins, essential trace elements, and fiber-rich foods like fruits, vegetables, and millets is beneficial, while healthy fats from avocados, nuts, seeds, and olive oil support balanced nutrition and cardiovascular health.

Weight management

Regular anthropometric measurements are advised to monitor body composition changes, and hemodialysis patients should maintain a BMI between 20 and 30 kg/m2. Weight

management should involve a multidisciplinary approach, considering nutritional needs, comorbidities, and promoting physical activity with behavior change techniques.

After transplantation, a BMI target of ≤25 kg/m2 is recommended, and bariatric surgery can be considered for those with morbid obesity (BMI > 40 kg/m2) to reduce weight.

Smoking and Alcohol intake

Although establishing a definitive cause-and-effect relationship is challenging, smoking is associated with accelerated CKD progression, with current smokers at higher risk compared to former or nonsmokers. Evidence suggests that quitting smoking may slow CKD progression relative to continued smoking. CKD patients are advised to abstain from recreational drugs and quit smoking altogether.

While moderate alcohol consumption—up to two drinks per day for men and one drink per day for women—does not appear to contribute to CKD progression, binge drinking significantly increases the risk. The relationship between alcohol use and kidney damage remains inconsistent across experimental and clinical studies. Given the potential for adverse effects, alcohol consumption is not recommended for non-drinkers.

Physical activity and exercise

Encouraging physical activity and exercise in the CKD population is recommended, provided there are no contraindications. Patients should aim for 150 minutes of moderate intensity activity per week or 75 minutes of vigorous activity, which may include interdialytic or intradialytic exercise for patients on hemodialysis. However, exercise should be avoided within three months of initiating hemodialysis or in the presence of certain medical conditions, such as uncontrolled infections, recent myocardial infarction, or symptomatic hyper- or hypotension. Monitoring safety is suggested, including assessing patients' feelings and vital signs before and during exercise, and monitoring for symptoms such as pain, fatigue, altered consciousness, and chest discomfort.

Complementary and alternative medicines

The use of complementary and alternative medicines, particularly from traditional systems like Unani, Siddha, homeopathy, and Ayurveda, is gaining popularity in India and globally. Recent studies have highlighted the effectiveness of Chinese herbal medicine in managing chronic kidney disease (CKD) and its complications by targeting key mechanisms such as inflammation, oxidative stress, apoptosis, autophagy, and fibrosis.

Herbal formulas have shown potential in addressing mitochondrial dysfunction, treating CKD-related anemia, and managing specific conditions like idiopathic membranous nephropathy and autosomal dominant polycystic kidney disease. These findings underscore the clinical benefits of herbal medicines in CKD treatment and their prospects for future drug development. However, concerns about renal safety persist due to limited regulatory oversight, with risks of toxicity from undocumented side effects, herb misidentification, heavy metal contamination during manufacturing, or interactions with nephrotoxic conventional drugs. For example, aristolochic acid nephropathy, linked to Chinese herbs like Guang Fang Ji and wild ginger (Xi Xin), causes chronic interstitial nephritis and urothelial malignancies by forming toxic DNA adducts in renal tissues.

Mind-body interventions

Relaxation techniques, spiritual healing/prayer, laughter therapy, yoga, and meditation, once classified as Complementary and Alternative Medicines, have now gained mainstream acceptance, along with support groups and cognitive-behavioral therapy. In a study conducted by Sharma et al. in South Delhi, significant enhancements in health parameters and overall well-being were observed among CKD patients following three months of laughter treatment and lifestyle adjustments. This underscores the importance of holistic care, highlighting the potential advantages of laughter therapy and exercise in reducing the necessity for dialysis. Exercise training improves vascular function in CKD patients and should be considered in their management, but more research is needed to confirm its impact on cardiovascular diseases. Future initiatives may prioritize preventive education initiatives and the promotion of mind-body intervention as strategies for effective CKD management.

Blood pressure control

Blood pressure target recommendations vary among guidelines, with KDIGO [15] suggesting a goal of less than 120 mmHg for CKD patients, ACC/AHA recommending ≤130/80 mmHg, and the European Society of Hypertension-European Society of Cardiology advising less than 140/90 mmHg, emphasizing individualized goals. However, the CKD population has shown a tendency for mask hypertension or nocturnal hypotension. For more accurate BP monitoring, home BP monitoring and 24-hour ambulatory BP monitoring are preferred to in-office measurements.

Glycaemic control

Current guidelines advise tailoring glycemic control goals to individual patients with diabetic kidney disease by selecting a personalized target HgbA1c level within the range of <6.5% to 8.0%, considering the balance between renal and cardiovascular benefits and the risk of hypoglycemia. Guidelines advise starting with non-pharmacological interventions or used in conjunction with pharmacological therapy to lower blood pressure and in CKD patients. These include a low-salt diet (<2g/day), moderate exercise (150 mins/week), treating sleep apnea, weight loss, and avoiding nonsteroidal anti-inflammatory drugs.

Medical management in chronic kidney disease

The demand for innovative CKD therapies arises from limitations in current treatments, including the progressive nature of the disease and the desire for more effective, targeted drug delivery and patient centered interventions. While **Angiotensin-Converting Enzyme Inhibitors (ACEIs) and Angiotensin II Receptor Blockers (ARBs)** are standard care, their efficacy may be limited due to varied responses, adverse effects, and tolerability issues. Innovations in medical science offer promising avenues for developing therapies that minimize side effects, improve cost-effectiveness, and provide tailored solutions to individual patients, reflecting a more holistic and personalized approach to CKD
management.

SGLT-2 inhibitors have emerged as a significant breakthrough in CKD management, demonstrating robust protective effects on both the heart and kidneys regardless of diabetes status. Trials such as CREDENCE, DAPA-CKD, and EMPA-KIDNEY revealed approximately 30% reduction in kidney related risks, even in patients with low baseline kidney function. These benefits were observed alongside ACE inhibitors or ARBs, suggesting additive effects. The DAPA-CKD trial extended these

findings to patients with IgA nephropathy, though evidence for focal segmental glomerulosclerosis was limited. Ongoing investigations explore SGLT-2 inhibitors' use in other CKD populations.

GLP-1 receptor agonists have shown effectiveness in improving kidney outcomes, though their precise mechanisms remain unclear. The FLOW trial aims to evaluate semaglutide's impact on CKD progression, addressing a critical research gap.

Mineralocorticoid receptor antagonists, particularly finerenone, offer promising alternatives, with trials demonstrating significant reductions in kidney-related risks. Ongoing studies like FIND-CKD (ClinicalTrials.gov: NCT05047263) and CONFIDENCE further explore finerenone's efficacy.

Hypoxia-inducible factor prolyl hydroxylase inhibitors (HIF-PHIs) represent a novel class of medications showing promise in managing anemia in CKD, though concerns regarding cardiovascular safety prompt further investigation. Chronic kidney disease and heart failure (HF) often share common risk factors and frequently coexist. The management of CKD patients with HF concentrates on addressing both symptoms and enhancing overall survival. For patients with eGFR 30–60 mL/min/1.73 m2, triple therapy with a low-dose betablocker, RAAS inhibitors **or ARNI (angiotensin receptor neprilysin inhibitors),** and a full dosage of SGLT-2 inhibitors is suggested. Low-dose MRAs may be added during follow-up if creatinine levels remain stable or increase by less than 30%, and potassium levels are below 5 meq/L. In those with eGFR 15–30 mL/min/1.73 m2, initiating low-dose beta-blockers and SGLT-2 inhibitors first, followed by RAAS inhibitors, is recommended after uptitration of the initial two agents. In cases of severe renal dysfunction, a cautious multi-drug approach may be considered, starting with lower doses of beta-blockers and subsequently adding ACE-I without uptitration. Treatment discontinuation is warranted if serum creatinine increases by more than 50% or exceeds 3.5 mg/dL.

Role of technology in integrative CKD management

Advancements in technology are driving the transition of traditional nutrition care models to virtual and digitally supported ones, yet the readiness, practices, and policies for mobile health (mHealth) in nephrology are not fully optimized. While mHealth presents opportunities for improved efficiency and convenience, several challenges need to be addressed, including ensuring universal access, enhancing assessment quality, validating applications, addressing cybersecurity, conducting comparative effectiveness research, and maintaining equitable reimbursement for digital services. Medical practice is advancing from empirical and evidence-based methods to intelligent diagnosis with AI-directed medicine.

Despite being in its early stages, AI shows promise in developing prediction algorithms for routine clinical use by leveraging diverse real-world data. Challenges include data quality, standardization, and privacy concerns. While AI has the potential to enhance clinician efficiency and alleviate pressure in clinics, further research is needed, especially in applying AI to kidney diseases, due to limited large-scale studies.

Conclusion

An integrated approach to CKD management is crucial for addressing the complex and multifaceted nature of the disease. From early detection and diagnosis to lifestyle modifications, medication management, and psychosocial support, a comprehensive strategy enhances patient outcomes and QoL. The collaborative efforts of a multidisciplinary healthcare team, coupled with patient education and empowerment, form the foundation for

effective CKD management. By addressing the various dimensions of CKD, healthcare professionals can optimize treatment strategies and improve the overall well-being of individuals living with this chronic condition

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12. Case Report: Atypical Presentation of Dengue Fever as Pancreatitis

Dr Pankaj Nand Choudhary, MD Medicine, Senior Consultant Physician, Max Vaishali (EDPA President 2024- present)

Dr Ajay Krishnan, DNB Resident, Max Vaishali

Abstract

A 51-year-old female presented with high-grade fever, severe abdominal pain, and vomiting. Initial clinical suspicion suggested a gastrointestinal or infectious origin, but laboratory investigations and imaging confirmed an atypical presentation of dengue fever with acute pancreatitis. This report highlights the diagnostic and clinical challenges posed by rare complications of dengue fever.

Keywords

Dengue fever, acute pancreatitis, atypical presentation, thrombocytopenia, case report.

Introduction

Dengue fever, a mosquito-borne viral illness, often presents with nonspecific symptoms like fever, myalgia, and rash. Abdominal pain is commonly associated with dengue hemorrhagic fever (DHF), but acute pancreatitis as a complication of dengue fever (DF) is rare. This case emphasizes the importance of considering atypical manifestations in dengue-endemic regions.

Case Presentation

Patient Details: A 51-year-old female, residing in Ram Vihar, Delhi.

Presenting Complaints:

- High-grade fever for 4 days.
- Severe, colicky epigastric abdominal pain for 2 days, relieved by bending forward.
- Multiple episodes of vomiting with nausea, containing food particles but no blood.

History of Presenting Illness:
The fever was intermittent, associated with headache and retro-orbital pain, without chills, night sweats, or visual disturbances. The abdominal pain developed acutely, with no association to food intake. No rashes, dysuria, or recent travel were reported.

Past Medical History:

- Hospitalized 1 month prior for lower respiratory tract infection.

Drug and Family History:

- No regular medication.
- No similar illnesses in the family.

Examination Findings:

- Conscious and oriented (GCS 15/15).
- Respiratory: Bilateral basal crepitations.
- Cardiovascular: Normal heart sounds, no murmurs.
- Abdomen: Tenderness in right hypochondrium and epigastrium, bowel sounds present.

Laboratory Findings:

- **CBC**: Platelets 45,000/µL, TLC 12,300/µL, Hb 13.9 g/dL.
- **Liver enzymes**: SGOT/PT 117/57 IU/L.
- **Amylase**: 1222 IU/L (elevated).
- **Lipase**: 5341 IU/L (elevated).
- **Dengue serology**: NS1 and IgM positive.

Radiological Findings:

- **Ultrasound Abdomen**: Hepatomegaly, splenomegaly, bulky and heterogeneous pancreas with minimal fluid around the pancreatic head, suggestive of pancreatitis.

Diagnosis: Dengue fever with thrombocytopenia and acute pancreatitis.

Discussion

Dengue virus can induce diverse abdominal symptoms, often misdiagnosed due to overlapping clinical presentations. In this case, significant elevations in serum amylase and lipase, combined with ultrasound findings, confirmed acute pancreatitis.

Pathophysiology and Diagnostic Insights:

- Pancreatic enzyme elevations (≥3x normal) and imaging features (hypoechoic pancreas) are diagnostic.
- Dengue-associated pancreatitis may arise due to immune-mediated injury, direct viral invasion, or capillary leak syndrome.

Literature Comparison:
Acute pancreatitis in dengue fever is typically an early complication, contrasting reports of

delayed onset seen in cases like those described by Ghweil et al.

Conclusion

This case underscores the importance of considering atypical presentations like acute pancreatitis in patients with dengue fever. Prompt diagnosis and management can mitigate severe complications in such cases.

13. Recipient of
EDPA Life time Achievement Award 2024

Dr Anil Garg

Heartiest Congratulations to Dr. Anil Kumar Garg (EDPA #8) on Receiving the EDPA Lifetime Achievement Award!!

*The East Delhi Physicians Association (EDPA) takes immense pride in honoring Dr. Anil Kumar Garg with the **Lifetime Achievement Award** for his exemplary contributions to the medical profession and his invaluable service to EDPA.*

Born on December 29, 1953, Dr. Garg has been a beacon of excellence throughout his distinguished career. An alumnus of the prestigious Maulana Azad Medical College, New Delhi, he completed his MBBS in 1975 and MD in Medicine in 1980, earning accolades as a recipient of the college merit scholarship.

Dr. Garg began his journey as a senior resident at Jessa Ram Hospital, Karol Bagh, and later at LNJP Hospital, serving till 1983. His early practice as a consultant physician and cardiologist across East Delhi (1983-1987) set the foundation for his outstanding reputation.

Currently, Dr. Garg is the driving force behind Navjeevan Nursing Home, a 35-bedded multispecialty healthcare center in Shivpuri, Delhi, where he continues to provide compassionate and high-quality medical care. His research contributions, such as his publication in the Indian Journal of Gastroenterology on gastric function in dialysis patients, reflect his dedication to advancing medical science.

Dr. Garg's active membership in EDPA and his unwavering commitment to the medical community have inspired countless physicians. This Lifetime Achievement Award is a testament to his enduring legacy of excellence, leadership, and service.

Congratulations, Dr. Garg! Your journey continues to inspire us all.

14. The "Shorter is Better" Revolution: A Paradigm Shift in Antibiotic Stewardship

Dr Anupam Singh MD Medicine , Consultant Physician

Introduction:

Internal Medicine Physicians face the critical challenge of balancing effective treatment with minimizing harm from antibiotic overuse. The "Shorter is Better" (SIB) movement has emerged as a transformative approach, advocating for reduced durations of antibiotic therapy in managing bacterial infections. This evidence-based strategy not only ensures optimal patient outcomes but also combats the growing threat of antimicrobial resistance (AMR).
This article synthesizes key findings from randomized controlled trials (RCTs) and expert recommendations to guide Physicians in implementing shorter antibiotic regimens while maintaining high standards of care.

Understanding the Shorter is Better Movement

Historical Context: Tradition vs. Evidence

Historically, antibiotic durations have been determined by convention rather than scientific rigor. The practice of prescribing 7, 10, or 14 days of antibiotics stems from arbitrary norms, such as Constantine the Great's decree of a seven-day week in 321 CE. Over the last two decades, more than 120 RCTs have consistently shown that shorter antibiotic courses achieve comparable efficacy with superior safety and reduced selective pressure for resistance.

Core Principles of SIB

1. Feasibility: It is easier to persuade clinicians to reduce therapy duration than to avoid antibiotics altogether.

2. Dual Benefit: Shorter courses protect patients requiring antibiotics while minimizing harm to those exposed unnecessarily.

3. Evidence Supersedes Tradition: RCTs provide a robust basis for challenging historical dogma.

Evidence Base for Shorter Courses in Common Infections

1. **Community-Acquired Pneumonia (CAP)**

- Traditional Duration: 7–14 days.
- Evidence-Based Duration: 3–5 days.
- Supporting Evidence:
    - Fourteen RCTs with over 8,400 patients demonstrate that 3–5 days of therapy is as effective as longer regimens.
    - Reduced antimicrobial resistance in respiratory secretions has been observed in shorter-course groups.

- Implications: For stable CAP patients, ID consultants can confidently recommend 3–5 days of therapy, provided clinical improvement is evident.

2. **Ventilator-Associated Pneumonia (VAP)**

- Traditional Duration: 10–15 days.
- Evidence-Based Duration: 7–8 days.
- Supporting Evidence:
    - Six RCTs, including patients with multi-drug-resistant pathogens, found no difference in outcomes between shorter and longer courses.
    - Shorter durations reduce the emergence of resistant organisms in respiratory secretions.

- Future Directions: Trials exploring therapy durations under seven days in critically ill patients are warranted.

3. **Urinary Tract Infections (UTIs)**

- Traditional Duration: 10–14 days for complicated UTIs and pyelonephritis.
- Evidence-Based Duration: 5–7 days.
- Supporting Evidence:
    - Eight RCTs with over 1,300 patients show equivalent clinical success between shorter and longer regimens.
    - Short courses are effective even in men and patients with bacteremia.

- Consultant Role: Emphasize follow-up in anatomically complex cases to ensure resolution.

4**. Skin and Soft Tissue Infections (SSTIs)**

- Traditional Duration: 10–14 days.
- Evidence-Based Duration: 5–6 days for cellulitis; 6–10 days for abscesses.
- Supporting Evidence:
    - Trials reveal no difference in cure rates between short and long courses while reducing adverse events.

- Clinical Tip: For cellulitis, limit therapy to six days post-clinical improvement.

5. **Intra-Abdominal Infections (IAIs)**

- Traditional Duration: 10–14 days.
- Evidence-Based Duration: 4 days post-source control.
- Supporting Evidence:
    - Two RCTs demonstrate no additional benefit from longer courses after achieving source control.

- Key Insight: Prioritize rigorous source control to optimize outcomes and safely reduce therapy durations.

6. **Gram-Negative Bacteremia**

- Traditional Duration: 14 days.
- Evidence-Based Duration: 7 days.
- Supporting Evidence:
    - Three RCTs with over 1,300 patients show that shorter courses achieve similar outcomes across various sources and drug-resistant strains.

- Caveat: Complex cases, such as endocarditis or osteomyelitis, may require individualized regimens.

7. **Pharyngitis and Sinusitis**

- Traditional Duration: 7–10 days.
- Evidence-Based Duration: 5 days or less.
- Supporting Evidence:
    - Trials confirm that short courses are effective in resolving symptoms, particularly in mild cases.

Addressing Barriers to Adoption

Challenges

1. **Clinical Inertia**: Many clinicians remain entrenched in traditional prescribing practices due to comfort and habit.

2. **Patient Expectations**: Longer treatments are often perceived as more comprehensive.

3. **Diagnostic Limitations**: Uncertainty in differentiating bacterial from viral infections leads to overtreatment.

Solutions

- Education and Training: Incorporate SIB principles into fellowship programs and continuing medical education.
- Guideline Integration: Promote adherence to updated guidelines endorsing shorter durations.
- Outcome Monitoring: Use metrics such as recurrence rates and resistance profiles to validate SIB implementation.

Advanced Applications and Research Opportunities

1. **Biomarkers in Individualized Therapy**

Role: Tools like C-reactive protein (CRP) and procalcitonin can guide therapy duration by signalling disease resolution.

Research: Ongoing studies aim to validate these biomarkers for real-time clinical decision-making.

2**. Short Courses in Immunocompromised Patients**

Challenge: The immune-compromised population poses unique risks for treatment failure with shorter regimens.
Emerging Evidence: Preliminary data suggest that shorter courses may still be feasible with tailored approaches.

3. **Modelling Studies and Observational Data**

Need: To address infections not yet subjected to RCTs, modelling and real-world data can fill evidence gaps.
Example: Studies on osteomyelitis and endocarditis are leveraging this methodology.

Implementing SIB in Antimicrobial Stewardship Programs

Key Components

- Educational Campaigns: Empower clinicians with the evidence supporting shorter durations.
- Structural Support: Develop protocols for automatic stop orders or reassessment at predefined intervals.
- Psychological Strategies: Address clinician concerns and biases about withholding or reducing therapy.

Monitoring Success

- Metrics: Track adherence to SIB protocols, resistance trends, and patient outcomes.
- Feedback: Regularly share data with clinicians to reinforce the benefits of adherence.

Conclusion

The "Shorter is Better" movement represents a significant advancement in antimicrobial stewardship, offering a practical and evidence-based approach to optimize patient care while combating antimicrobial resistance. For Physicians, adopting these principles is not just a professional obligation but a critical step in preserving the efficacy of antibiotics for future generations.

By integrating shorter durations into clinical practice, leveraging biomarkers, and promoting ongoing research, Physicians can lead the charge in transforming traditional practices and ensuring sustainable healthcare outcomes. Let the era of evidence-based stewardship begin.

15. Icodec: Transforming Diabetes Management with Once-Weekly Insulin

Dr Ashok Grover , Senior Consultant , Internal Medicine, Max Vaishali
EDPA President 2005-2007

Introduction

Insulin Icodec is a groundbreaking once-weekly basal insulin analog developed by Novo Nordisk. Designed to improve adherence and simplify diabetes management, Icodec represents a significant advancement in the treatment of type 2 diabetes mellitus (T2DM) and potentially type 1 diabetes mellitus (T1DM). Its extended duration of action and steady pharmacokinetics have generated enthusiasm among physicians and patients alike, particularly in India, where diabetes prevalence is high.

Mechanism of Action (MOA)

Insulin Icodec is engineered with a prolonged half-life, enabling consistent basal insulin coverage over seven days. This is achieved through albumin binding and molecular modifications that delay degradation and clearance. Icodec provides stable glucose-lowering effects with minimal peaks and troughs, reducing the risk of hypoglycemia while maintaining efficacy.

Indications

Insulin Icodec is being investigated for the following indications:

- **Type 2 Diabetes Mellitus (T2DM):** As a basal insulin to improve glycemic control in adults inadequately controlled on oral antidiabetic drugs or other injectable therapies.
- **Type 1 Diabetes Mellitus (T1DM):** As an adjunct to prandial insulin for basal coverage (under investigation).

Clinical Trial Results

Icodec has shown promising results in several clinical trials:

1. **Phase 3 ONWARDS Program:**
   The ONWARDS clinical development programme comprised six phase 3a global clinical trials, which investigated the efficacy and safety of once-weekly basal insulin icodec, involving more than 4,000 adults with type 1 or type 2 diabetes, including a trial with real-world elements.

   a) In head-to-head trial comparing Icodec to daily basal insulin Glargine, Icodec demonstrated non-inferior HbA1c reduction (-1.55% vs. -1.50%, respectively) over 26 weeks in T2DM patients. Notably, Icodec resulted in a 27% lower rate of clinically significant hypoglycemia ($p<0.05$).
   b) Once-weekly basal insulin icodec achieved superior blood sugar reduction (measured by a change in HbA1c) and superior Time in Range (time spent within recommended blood sugar range), compared with daily basal insulin in people with type 2 diabetes.
   c) In people with type 2 diabetes who have not previously been treated with insulin, overall observed rates of clinically significant or severe hypoglycaemia were below one event per patient-year of exposure with both once-weekly basal insulin icodec and comparators.
   d) Across the programme, once-weekly basal insulin icodec appeared to have a safe and well-tolerated profile

2. **Adherence and Satisfaction:** Patient-reported outcomes indicate significantly higher treatment satisfaction and adherence with once-weekly dosing versus daily regimens.

3. **T1DM Studies:** Preliminary trials suggest comparable efficacy in maintaining basal insulin levels, though further studies are ongoing. In people with type 1 diabetes, once-weekly basal insulin icodec demonstrated non-inferiority in reducing HbA1c with a statistically significant higher estimated rate of severe or clinically significant hypoglycaemia compared with insulin degludec.

Safety Data

Icodec has a favorable safety profile. The most common adverse effects include mild hypoglycemia and injection site reactions. Severe hypoglycemia occurred less frequently compared to daily basal insulins, and no new safety concerns were identified. Its ultra-long action profile necessitates careful initiation to avoid insulin stacking during dose transitions.

Impact of Once-Weekly Insulin on Diabetes Management

The introduction of once-weekly insulin like Icodec marks a paradigm shift in diabetes management. Simplified regimens reduce the treatment burden for patients, particularly those struggling with adherence. This is expected to improve long-term glycemic control, reduce diabetes-related complications, and enhance quality of life. Moreover, healthcare providers will likely see better patient engagement and fewer missed doses.

Impact on Existing Insulins

The availability of Icodec is expected to influence the utilization of existing basal insulins. Daily basal insulins, such as Glargine and Detemir, may see reduced preference among patients seeking convenience. However, they may still retain a role for patients requiring highly individualized titration. Competition may drive innovation and potentially lower costs across the insulin market.

Development and Approval Timeline

Novo Nordisk is leading the development of Insulin Icodec. The drug is marketed as Awiqli, and is currently approved for medical use in Canada, the European Union, Switzerland, Australia, Japan, and China, primarily for the treatment of type 1 and type 2 diabetes; It has received positive reviews from regulatory agencies in the US but not yet USFDA approved, (anticipated by early 2025). In India, regulatory approval is expected by 2025, pending completion of local bridging studies and CDSCO review.

Position in the Treatment Algorithm in diabetes management

Upon approval, Insulin Icodec is likely to be positioned as:

- A first-line basal insulin for T2DM patients seeking simplified regimens.
- A preferred option for patients with adherence challenges or complex medication schedules.
- A potential alternative for select T1DM patients as part of a basal-bolus strategy (pending further data).

Conclusion

Insulin Icodec offers a revolutionary approach to diabetes care, combining convenience with robust clinical efficacy and safety. Indian physicians should prepare to incorporate this innovation into their practice, particularly for patients struggling with adherence to daily basal insulin. With its ability to simplify diabetes management, Insulin Icodec is poised to significantly impact glycemic control and patient quality of life.

16. Addressing Obesity and Diabetes Among Doctors: Insights and Recommendations

Dr Rajeev Lochan, Senior Consultant Physician

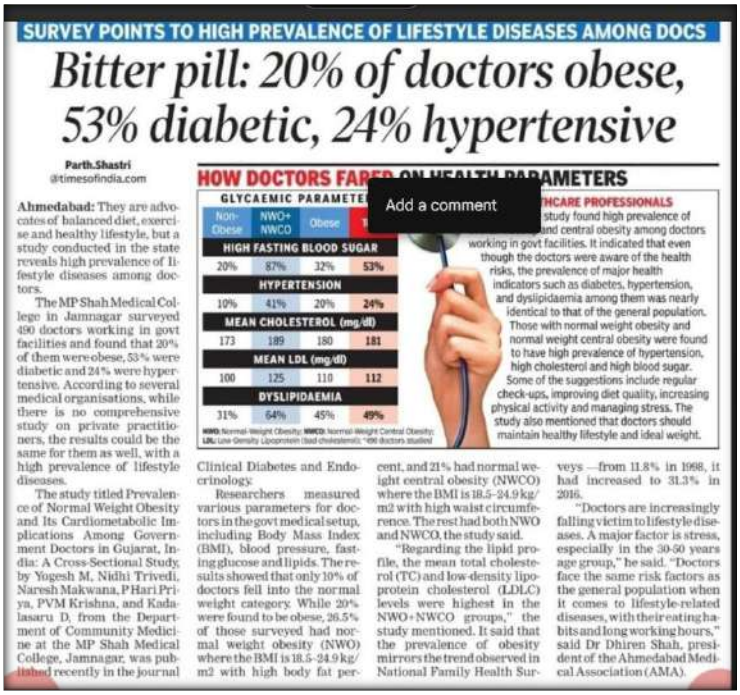
EDPA President 2007-2009

Introduction

A recent survey conducted among government doctors in Gujarat revealed a troubling prevalence of obesity and diabetes within this critical professional group. These findings highlight a paradox: those responsible for managing public health are themselves at significant risk of chronic metabolic diseases. This article examines the factors contributing to this phenomenon, its implications, and actionable strategies to mitigate the risk among doctors.

The Survey Findings

The survey reported:



SURVEY POINTS TO HIGH PREVALENCE OF LIFESTYLE DISEASES AMONG DOCS

Bitter pill: 20% of doctors obese, 53% diabetic, 24% hypertensive

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Ahmedabad: They are advocates of balanced diet, exercise and healthy lifestyle, but a study conducted in the state reveals high prevalence of lifestyle diseases among doctors.

The MP Shah Medical College in Jamnagar surveyed 490 doctors working in govt facilities and found that 20% of them were obese, 53% were diabetic and 24% were hypertensive. According to several medical organisations, while there is no comprehensive study on private practitioners, the results could be the same for them as well, with a high prevalence of lifestyle diseases.

The study titled Prevalence of Normal Weight Obesity and Its Cardiometabolic Implications Among Government Doctors in Gujarat, India: A Cross-Sectional Study, by Yogesh M, Nidhi Trivedi, Naresh Makwana, P Hari Priya, PVM Krishna, and Kadalasaru D, from the Department of Community Medicine at the MP Shah Medical College, Jamnagar, was published recently in the journal Clinical Diabetes and Endocrinology.

Researchers measured various parameters for doctors in the govt medical setup, including Body Mass Index (BMI), blood pressure, fasting glucose and lipids. The results showed that only 10% of doctors fell into the normal weight category. While 20% were found to be obese, 26.5% of those surveyed had normal weight obesity (NWO) where the BMI is 18.5-24.9 kg/m2 with high body fat percent, and 21% had normal weight central obesity (NWCO) where the BMI is 18.5-24.9 kg/m2 with high waist circumference. The rest had both NWO and NWCO, the study said.

"Regarding the lipid profile, the mean total cholesterol (TC) and low-density lipoprotein cholesterol (LDLC) levels were highest in the NWO+NWCO groups," the study mentioned. It said that the prevalence of obesity mirrors the trend observed in National Family Health Surveys —from 11.8% in 1998, it had increased to 31.3% in 2016.

"Doctors are increasingly falling victim to lifestyle diseases. A major factor is stress, especially in the 30-50 years age group," he said. "Doctors face the same risk factors as the general population when it comes to lifestyle-related diseases, with their eating habits and long working hours," said Dr Dhiren Shah, president of the Ahmedabad Medical Association (AMA).

HOW DOCTORS FARED ON HEALTH PARAMETERS

GLYCAEMIC PARAMETE	Non-Obese	NWO+NWCO	Obese	
HIGH FASTING BLOOD SUGAR	20%	87%	32%	53%
HYPERTENSION	10%	41%	20%	24%
MEAN CHOLESTEROL (mg/dl)	173	189	180	181
MEAN LDL (mg/dl)	100	125	110	112
DYSLIPIDAEMIA	31%	64%	45%	49%

NWO: Normal-Weight Obesity; NWCO: Normal-Weight Central Obesity; LDL: Low-Density Lipoprotein (bad cholesterol); *496 doctors studied

HCARE PROFESSIONALS

study found high prevalence of and central obesity among doctors working in govt facilities. It indicated that even though the doctors were aware of the health risks, the prevalence of major health indicators such as diabetes, hypertension, and dyslipidaemia among them was nearly identical to that of the general population. Those with normal weight obesity and normal weight central obesity were found to have high prevalence of hypertension, high cholesterol and high blood sugar. Some of the suggestions include regular check-ups, improving diet quality, increasing physical activity and managing stress. The study also mentioned that doctors should maintain healthy lifestyle and ideal weight.

Add a comment

- **Obesity:** A significant proportion of doctors were classified as overweight or obese, with a BMI exceeding 25 kg/m².
- **Diabetes:** A notable prevalence of type 2 diabetes mellitus (T2DM) was observed, with many participants reporting high fasting blood glucose levels or a history of diabetes diagnosis.
- **Lifestyle Patterns:** A sedentary lifestyle, long working hours, and irregular eating habits emerged as common denominators among the respondents.

These findings are particularly concerning as they underscore the vulnerability of healthcare providers to the very conditions they aim to prevent and treat in the broader population.

Why Does This Happen?

Several factors contribute to the high prevalence of obesity and diabetes among doctors:

1) **Demanding Work Environment:**
   a) Doctors often face long, unpredictable hours, leaving little time for physical activity or meal planning. High patient loads and administrative responsibilities exacerbate stress levels, which can lead to unhealthy coping mechanisms, including overeating and reliance on convenience foods.
2) **Lack of Work-Life Balance:**
   a) The boundary between professional and personal life is often blurred. Many doctors neglect their own health while prioritizing patient care, leading to chronic sleep deprivation and burnout.
3) **Cultural Norms and Awareness Gaps:**
   a) Despite their medical training, doctors may underestimate the importance of self-care. There is often a cultural stigma associated with prioritizing personal health over professional duties.
4) **Accessibility to Unhealthy Foods:**
   a) Hospital canteens and nearby eateries often offer calorie-dense, nutrient-poor options. Combined with irregular meal timings, this contributes to weight gain and metabolic dysfunction.

Implications of the Problem

- **Reduced Professional Efficiency:**
  - Chronic conditions like diabetes can impair cognitive function, energy levels, and overall job performance.
- **Credibility Concerns:**
  - A doctor's personal health significantly impacts their ability to counsel patients on lifestyle changes. Obesity or diabetes in physicians can undermine their authority on preventive healthcare advice.
- **Healthcare Costs:**
  - Treating chronic conditions in doctors adds to the already burdened healthcare system.

Recommendations to Address the Issue

Doctors can adopt several measures to prioritize their health without compromising their professional responsibilities:

1) **Structured Workplace Wellness Programs:**
   a) Hospitals and healthcare facilities should implement appropriate wellness initiatives, including:
   i) Regular health screenings for staff as feasible.
   ii) Subsidized gym memberships or on-site fitness facilities.

iii) Nutrition workshops to encourage healthy eating habits.

2) **Promoting Physical Activity:**
   a) Integrating short, structured exercise routines into daily schedules (e.g., 15-minute stretching or yoga sessions).
   b) Encouraging walking meetings or the use of stairs instead of elevators.

3) **Addressing Stress and Burnout:**
   a) Providing access to mental health resources, such as counselling services or stress management workshops.
   b) Promoting flexible work schedules to ensure adequate rest and recovery.

4) **Encouraging Healthy Eating:**
   a) Replacing unhealthy options in hospital cafeterias with balanced, nutrient-dense meals.
   b) Educating doctors on meal prepping and the benefits of intermittent fasting for metabolic health.

5) **Setting an Example:**
   a) Doctors can inspire their colleagues and patients by embodying the lifestyle changes they advocate. This includes maintaining a healthy weight, exercising regularly, and practicing mindfulness.

6) **Policy-Level Interventions:**
   a) The government and hospital management should support initiatives aimed at improving doctors' work environments. This includes enforcing reasonable working hours, providing wellness subsidies, and creating a culture that normalizes self-care among healthcare providers.

Conclusion

The high prevalence of obesity and diabetes among government doctors in Gujarat is a wake-up call for the healthcare community. Addressing this issue requires a multifaceted approach involving individual, institutional, and policy-level changes. By prioritizing their health, doctors not only enhance their personal well-being but also set a powerful example for their patients and society at large. It is time to act decisively to ensure that those who care for others do not neglect themselves.

17. 2024 AHA/ASA Guidelines for the Primary Prevention of Stroke: Key Updates and Clinical Implications

Dr BK Gupta, DM Neurology

EDPA President, 2009-2011

Introduction

The American Heart Association (AHA) and the American Stroke Association (ASA) have issued the 2024 Guideline for the Primary Prevention of Stroke. These guidelines provide evidence-based recommendations to reduce the incidence of first-time strokes, reflecting the latest research in stroke prevention. This article summarizes the key recommendations, highlights differences from previous guidelines, and offers clinical takeaways for physicians. EDPA Physicians should familiarize themselves with these updated guidelines to optimize stroke prevention strategies and improve patient outcomes in our clinical practice.

Key Recommendations and Changes

1) **Hypertension Management**

   a) The 2024 guideline emphasizes stricter blood pressure control, targeting <130/80 mmHg for most adults at risk of stroke. This aligns with findings from recent trials demonstrating that intensive BP control reduces stroke risk. The guidelines also highlight the importance of ambulatory and home BP monitoring to avoid misclassification.

      Difference from Previous Guidelines: The previous guidelines recommended a more lenient BP target (<140/90 mmHg for most). This shift reflects accumulating evidence from the SPRINT trial and other studies.

2) **Lipid Management**

   b) The use of high-intensity statins is recommended for adults with LDL cholesterol levels >70 mg/dL and those at high cardiovascular risk. The guideline also discusses the use of ezetimibe and PCSK9 inhibitors for those who do not achieve LDL targets with statins alone.

Difference from Previous Guidelines: Greater emphasis is placed on non-statin therapies as adjuncts to statins, particularly for patients with multiple stroke risk factors.

3) **Antithrombotic Therapy**
   a) Aspirin is no longer routinely recommended for primary prevention of stroke in low-risk individuals due to bleeding risks. Its use is reserved for those at high cardiovascular risk without significant bleeding concerns.

      Difference from Previous Guidelines: This marks a significant change, as prior guidelines endorsed more liberal use of aspirin in primary prevention.

4) **Diabetes Management**
   a) The guideline underscores the importance of glycemic control and recommends the use of SGLT2 inhibitors or GLP-1 receptor agonists for patients with diabetes and high cardiovascular risk. These agents not only lower glucose but also provide additional cardiovascular protection.
      Difference from Previous Guidelines: New evidence supporting these classes of medications has led to their inclusion as preferred options in high-risk populations.

5) **Lifestyle Modifications**
   a) Behavioral interventions targeting smoking cessation, dietary improvements (e.g., Mediterranean or DASH diets), and physical activity remain central to stroke prevention. The guidelines recommend at least 150 minutes of moderate-intensity aerobic exercise weekly.

      Difference from Previous Guidelines: More specific recommendations on diet and activity levels are included, supported by recent studies linking lifestyle changes with reduced stroke risk.

6) **Atrial Fibrillation (AF) Screening**
   a) Systematic AF screening is advised for older adults (≥65 years) or those with stroke risk factors using methods like wearable devices or prolonged ECG monitoring.

      Difference from Previous Guidelines: The expanded focus on AF detection reflects its critical role in cryptogenic stroke and advances in screening technologies.

7) **Obesity and Sleep Apnea**
   a) The guidelines recognize obesity and sleep apnea as modifiable risk factors for stroke. Management strategies include structured weight-loss programs and CPAP therapy for obstructive sleep apnea.

      Difference from Previous Guidelines: These conditions receive greater emphasis as primary prevention targets, supported by recent evidence linking them to stroke risk.

8) **Social Determinants of Health (SDOH)**

a) The guideline highlights the role of socioeconomic factors, access to care, and systemic health disparities in stroke prevention. Interventions should consider individual patient circumstances.

Difference from Previous Guidelines: This is a newer addition, reflecting an increasing awareness of the impact of SDOH on health outcomes.

Clinical Implications for Physicians

The 2024 guidelines offer several actionable insights for clinicians:

- Prioritize aggressive hypertension management using home or ambulatory BP monitoring.
- Tailor lipid-lowering therapy to individual patient risk profiles, incorporating non-statin therapies when necessary.
- Reassess the use of aspirin for primary prevention and educate patients on the associated risks.
- Integrate newer antidiabetic agents into the care plans of patients with diabetes and high cardiovascular risk.
- Encourage and support sustainable lifestyle changes, leveraging multidisciplinary approaches where needed.
- Utilize advanced screening tools for atrial fibrillation in at-risk populations.
- Address obesity and sleep apnea proactively, incorporating these into routine risk assessment.
- Be cognizant of social determinants when designing preventive strategies.

Key Takeaways for EDPA Clinicians

1. **BP and Lipids:** Strive for stricter control of blood pressure and LDL cholesterol to reduce stroke risk effectively.
2. **Aspirin Use:** Limit aspirin to high-risk patients without bleeding concerns.
3. **Lifestyle Focus:** Reinforce the importance of diet, exercise, and smoking cessation.
4. **New Therapies:** Leverage evidence-based antidiabetic agents and adjunct lipid therapies.
5. **Individualized Care:** Consider patient-specific factors, including SDOH and comorbidities, in preventive plans.
6. **Technology:** Utilize wearable devices and advanced screening methods for conditions like AF.

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18. The menace of celebrities spreading misinformation on health topics: Navjot Singh Sidhu and Breast Cancer Controversy

Dr Prakash Gera, Senior Consultant Physician

EDPA President, 1999-2001

Overview of the Incident

Navjot Singh Sidhu, a prominent Indian cricketer and former politician, claimed in a viral video that his wife, Navjot Kaur Sidhu, overcame terminal breast cancer through strict dietary changes and home remedies such as neem water, turmeric, and avoiding dairy and sugar. His claims were widely criticized by the medical community, especially oncologists at Tata Memorial Hospital (TMH), who released a strong statement warning against the dangers of promoting unproven treatments.

262 oncologists, Tata Memorial come out against Sidhu's claim

Mumbai/Delhi: In an effort a Sidhu overdone families of cancer patients then turn to alternative products, adopt rigid dietary changes with an emphasis on haldi or neem in tandem with conventional treatment. A recent video featuring former cricketer turned politician Navjot Singh Sidhu has now sparked controversy with Sidhu claiming that such home remedies helped his wife recover from breast cancer, purportedly playing down the role of scientific treatment.

The sheer vitality of the video on social media has now prompted the Tata Memorial Hospital to issue an unprecedented rebuttal signed by hundreds of oncologists.

In the video, Sidhu says, She started her day with lauki juice along with 'kaali haldi', garlic, and then neem leaves... then nuts, beetroot, carrot, and amla. After her operation, there was not a single cell of cancer (cyst) detected. These remedies do not require any money."

Tata Memorial Hospital's statement is signed by 262 present and past oncologists from TMH. It said, "These statements have no high-quality evidence to support them. While research is ongoing for some of these products, there is no clinical data currently to recommend their use as anti-cancer agents." The statement added, "We urge the public to not delay their treatment by following unproven remedies, but rather to consult a doctor, preferably a cancer specialist, if they have any symptoms of cancer. Cancer is curable if detected early."

A day ago, TMH director Dr CS Pramesh took note of the viral video and said in an X (formerly known as Twitter) post, "Please don't believe and get fooled by these statements regardless of who it comes from. These are unscientific and baseless recommendations. She got surgery and chemotherapy that were evidence-based, which is what made her cancer-free. Not the haldi, neem, etc."

The video was also slammed by hepatologist Dr Cyriac Abby Philips, known as 'The Liver Doc' on X, popular for his science-driven fact checks. He said, "I know you (Sidhu) are emotional, and emotions make people's thoughts go blind. There is no evidence that any specific diet or herb or Ayurvedic balderdash can prevent, control, or cure cancer." He noted, "Studies have shown that complementary and alternative medicines and practices kill cancer patients more than it can delusionally save." All India Institute Of Medical Sciences, Delhi, also rushed to counter Sidhu's claims. Dr Abhishek Shankar, assistant professor, radiation oncology at AIIMS Delhi, said the claims can create false hope and might discourage patients from pursuing necessary treatment. "I urge you (Sidhu) to advise cancer patients to consult an oncologist like you did for your wife to explore the best treatment options suited to individual needs," he said.

The cricketer-turned-politician has sparked a controversy after he said home remedies helped his wife recover from breast cancer

TMH Oncologists immediate rebuttal

The TMH oncologists emphasized that Ms. Sidhu's recovery was primarily due to evidence-based interventions, including surgery and chemotherapy, and not alternative remedies. They stressed the risks of delaying standard treatments in favor of unverified methods, which could worsen patient outcomes

The Scientific Basis of Breast Cancer Treatment

Breast cancer treatment is guided by established protocols that depend on the stage and subtype of cancer. Common interventions include:

1. **Surgery:** Removal of the tumor or breast tissue is often the first step for localized cancers.

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Tata Memorial Hospital Alumni

23rd November 2024

A video of a former cricketer describing his wife's treatment for her breast cancer has been circulating widely on social media. Parts of the video imply that "starving the cancer by not eating dairy products and sugar", consuming haldi (turmeric) and neem helped cure her "incurable" cancer. These statements have no high quality evidence to support them. While research is ongoing for some of these products, there is no clinical data currently to recommend their use as anti-cancer agents. We urge the public to not delay their treatment by following unproven remedies, but rather to consult a doctor, preferably a cancer specialist, if they have any symptoms of cancer. Cancer is curable if detected early and proven treatments for cancer include surgery, radiation therapy and chemotherapy.

Issued in public interest
Signed
262 oncologists (present and past, from Tata Memorial Hospital)

2. **Chemotherapy and Radiation Therapy:** These are used to target cancer cells systemically or locally, especially in advanced stages.
3. **Hormone Therapy and Targeted Therapy:** For hormone-receptor-positive or HER2-positive cancers, these treatments are tailored to block specific pathways that fuel cancer growth.
4. **Immunotherapy:** Emerging as a powerful tool for certain breast cancer types, it harnesses the immune system to fight cancer.

None of these treatments can be replaced by alternative remedies, as robust clinical evidence is required to prove efficacy. Ingredients like turmeric or neem lack the rigorous data needed to classify them as primary cancer therapies

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Impact of Misinformation by Influencers & celebrities on general public

Celebrity endorsements of alternative cancer treatments can mislead the public due to their significant reach and perceived credibility. These claims often:

- **Delay Proven Treatments:** Patients may forego or delay standard care, worsening disease progression.
- **Provide False Hope:** Claims unsupported by evidence can foster unrealistic expectations and emotional distress.
- **Undermine Trust in Medical Science:** Promoting unproven remedies can erode public confidence in scientifically validated treatments.

Such misinformation disproportionately affects vulnerable populations who may lack access to accurate medical guidance

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Recommendations for the Public and Clinicians

For the Public:

1. **Rely on Evidence-Based Medicine:** Always consult qualified healthcare professionals for treatment decisions.
2. **Verify Information:** Critically evaluate claims from influencers and celebrities, especially regarding life-threatening conditions.
3. **Avoid Delays:** Timely intervention is crucial for effective cancer treatment.

For Clinicians:

1. **Combat Misinformation Actively:** Educate patients about the importance of evidence-based treatments and the risks of alternative therapies.
2. **Engage with Media:** Use social and traditional media platforms to correct misinformation promptly and effectively.
3. **Empower Patients:** Provide clear, compassionate explanations to help patients differentiate between credible and non-credible sources of information.

Key Takeaways

- Any cancer recovery relies on timely, evidence-based treatments such as surgery, chemotherapy, and targeted therapies.
- Claims of alternative remedies curing cancer are unscientific and potentially harmful.
- Clinicians and institutions must actively counter misinformation while empowering patients to make informed decisions.

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19. Finerenone in Renal Disease: A Comprehensive Review

Dr Dilip Bhalla, DM Nephrology, Senior Director Nephrology & Transplantation, Max PPG

Introduction

Chronic kidney disease (CKD) is a progressive condition characterized by the gradual loss of kidney function over time affecting approximately 9.1% of the global population. It is a significant public health challenge due to its high morbidity, mortality, and associated economic burden. It often coexists with other chronic conditions such as type 2 diabetes (T2D) and cardiovascular disease (CVD), exacerbating patient outcomes and complicating treatment strategies. Persistent inflammatory and fibrotic changes in CKD contribute to its progression and underline the urgency of developing targeted therapies.

Traditional approaches to CKD management include renin-angiotensin-aldosterone system (RAAS) inhibitors, such as angiotensin-converting enzyme inhibitors (ACEIs) and angiotensin receptor blockers (ARBs). While these therapies have been instrumental in delaying disease progression, residual risks persist, particularly in patients with diabetic kidney disease (DKD). Persistent mineralocorticoid receptor (MR) activation—driven by aldosterone and other ligands—contributes significantly to CKD progression by promoting inflammation and fibrosis, processes not fully addressed by RAAS blockade.

Finerenone, a novel non-steroidal mineralocorticoid receptor antagonist (MRA), has emerged as a promising therapeutic option in CKD management. Unlike traditional steroidal MRAs such as spironolactone and eplerenone, Finerenone demonstrates greater receptor selectivity and a lower risk of hyperkalemia, making it a safer and more effective choice for patients with CKD and T2D.

Mechanism of Action

Pathophysiology of Mineralocorticoid Receptor Activation in CKD

The mineralocorticoid receptor (MR) plays a pivotal role in regulating electrolyte balance, blood pressure, and fluid homeostasis under physiological conditions. However, in CKD, persistent MR activation contributes to pathological processes that accelerate kidney damage. Overactivation of the MR by aldosterone leads to:

1. **Pro-inflammatory effects**: Upregulation of pro-inflammatory cytokines such as tumor necrosis factor-alpha (TNF-α) and interleukin-6 (IL-6), which exacerbate renal injury.

2. **Fibrotic pathways**: Activation of transforming growth factor-beta (TGF-β) and collagen synthesis, resulting in renal fibrosis.

3. **Oxidative stress**: Increased production of reactive oxygen species (ROS) that damage renal cells.

4. **Proteinuria**: MR activation promotes podocyte dysfunction, increasing glomerular permeability and proteinuria, a hallmark of CKD progression.

Finerenone has high receptor selectivity, has anti-inflammatory and anti-fibrotic actions and also reduces Proteinuria and compared with other MRAs the risk profile is better with less side effects like gynaecomastia and menstrual irregularities with hormonal effects and those of hyperkalaemia

Evidence from Clinical Trials

FIDELIO-DKD Trial

- The **FIDELIO-DKD** (Finerenone in Reducing Kidney Failure and Disease Progression in Diabetic Kidney Disease) trial is one of the landmark studies assessing Finerenone's effectiveness in patients with diabetic kidney disease (DKD).
- Published in 2020, the trial was a Phase 3, multicentre, randomized, double-blind, placebo-controlled study that evaluated the efficacy of Finerenone in patients with CKD and T2D. The primary endpoint was the composite of kidney failure, a sustained decrease in eGFR of 40% or more, or death from renal causes.

Key Findings

- **Primary Outcome**: Finerenone significantly reduced the risk of the primary composite endpoint by 18% (hazard ratio [HR] 0.82, 95% CI 0.73–0.93; p = 0.001) compared to placebo.
- **Secondary Outcomes**: The trial also demonstrated a 23% reduction in the risk of the composite cardiovascular outcome (HR 0.77, 95% CI 0.66–0.89).

FIGARO-DKD Trial

- The **FIGARO-DKD** (Finerenone in Patients with Chronic Kidney Disease and Type 2 Diabetes) trial is another pivotal Phase 3 study, which focused on the cardiovascular outcomes of finerenone in patients with CKD and T2D.
- Unlike FIDELIO-DKD, which primarily emphasized kidney outcomes, the FIGARO-DKD trial was designed to investigate the effect of Finerenone on cardiovascular events in a similar cohort.

Key Findings

- **Primary Outcome**: The study demonstrated a 13% reduction in the risk of the composite cardiovascular outcome (HR 0.87, 95% CI 0.76–0.99; p = 0.03).

- **Kidney Outcomes**: Although the primary outcome was cardiovascular, the secondary analysis revealed a trend towards a reduction in kidney-related events, aligning with the findings of FIDELIO-DKD.

The FIDELIO-and FIGARO DKD trial provided compelling evidence for the use of Finerenone in delaying kidney disease progression and reducing cardiovascular events in patients with T2D and CKD. Its benefit was consistent across a range of subgroups, reinforcing the therapeutic potential of Finerenone in this high-risk population.

COMPLIMENTARY ACTIONS WITH OTHER THERAPIES

SGLT2 Inhibitors:

- Sodium-glucose cotransporter-2 (SGLT2) inhibitors, such as empagliflozin and dapagliflozin, have emerged as cornerstone therapies for patients with CKD and T2D. These agents offer multiple benefits, including Glucose control, Kidney protection and Cardiovascular protection SGLT2 inhibitors lower blood glucose levels, which is particularly beneficial for diabetic nephropathy
- The combination of Finerenone and SGLT2 inhibitors offers a synergistic effect. While Finerenone primarily addresses the mineralocorticoid pathway and its pro-inflammatory and pro-fibrotic effects, SGLT2 inhibitors focus on glucose regulation, sodium reabsorption, and kidney hemodynamics. The combination of these two classes can provide broader benefits in both renal and cardiovascular outcomes.

RAAS Blockers: ACE Inhibitors and ARBs

- RAAS blockade remains the standard of care in CKD management. ACE inhibitors and ARBs reduce proteinuria, slow the progression of CKD, and protect the heart. However, residual risks remain, especially in patients with advanced CKD or those with T2D.
- Combining RAAS blockers with Finerenone can provide additional protection against kidney disease progression and cardiovascular complications by targeting both the RAAS and the MR signalling pathways.

Safety and Tolerability

Adverse Events

The most significant safety concern with Finerenone is the risk of **hyperkalemia**, especially in patients with impaired renal function. However, the incidence of hyperkalemia in the FIDELIO-DKD and FIGARO-DKD trials was relatively low compared to traditional steroidal MRAs.

The key factors contributing to the manageable nature of hyperkalemia include:

Dose-dependent effect: The lower dose of finerenone (10 or 20 mg) used in clinical trials mitigates the risk of hyperkalemia.

Patient selection: Careful monitoring of potassium levels and eGFR during treatment initiation and maintenance can reduce the occurrence of severe hyperkalemia.

Other adverse events include

Hypotension: Although less common, some patients may experience low blood pressure, particularly those on multiple antihypertensive agents.

Gastrointestinal symptoms: Mild nausea, diarrhea, or abdominal discomfort have been reported but are generally not dose-limiting.

Applications in Clinical Practice

Guideline Recommendations

- Finerenone's approval and integration into clinical practice have been supported by several key clinical guidelines for the management of chronic kidney disease (CKD), particularly in patients with type 2 diabetes (T2D).
- The **Kidney Disease: Improving Global Outcomes (KDIGO)** guidelines, **American Diabetes Association (ADA)** guidelines, and **European Society of Cardiology (ESC)** guidelines have all recognized the significant impact of Finerenone on slowing CKD progression and reducing cardiovascular risks in this high-risk population.

KDIGO Guidelines:

The **KDIGO 2020** guidelines for the management of diabetic kidney disease highlight the importance of controlling blood pressure and albuminuria in patients with T2D and CKD. In patients with moderate-to-severe CKD (eGFR between 25–75 mL/min/1.73m²) and albuminuria, the guidelines suggest the use of **RAAS inhibitors** (ACE inhibitors or ARBs) alongside **SGLT2 inhibitors**.

In cases where patients remain at risk for CKD progression despite RAAS blockade, **Finerenone** is now recommended as an adjunct to optimize treatment, especially in patients with persistent albuminuria. KDIGO specifically mentions Finerenone's role in patients who experience CKD progression despite maximal RAAS blockade and SGLTs inhibition.

Monitoring Requirements

To ensure patient safety while optimizing therapeutic benefits, appropriate monitoring is critical when using Finerenone. Key aspects of patient monitoring are

Potassium Levels: Monitoring of serum potassium is essential to detect hyperkalemia, which remains the most significant safety concern with Finerenone. Blood tests should be conducted regularly to track potassium levels, especially during dose initiation and when combined with other drugs that affect potassium balance, such as RAAS inhibitors or potassium-sparing diuretics

Dosing and Administration

Finerenone is administered orally and is available in tablet form at two strengths: **10 mg** and **20 mg**. The standard dosing strategy involves:

1. **Starting Dose**: The recommended starting dose is **10 mg once daily**, particularly for patients with an eGFR between 25–60 mL/min/1.73 m². This lower dose helps minimize the risk of hyperkalemia.

2. **Dose Adjustment**: For patients with well-controlled potassium levels and stable renal function, the dose may be increased to **20 mg once daily** after 4 weeks of treatment.

3. **Renal Function Considerations**: In patients with an eGFR of 25–29 mL/min/1.73m², the starting dose should be 10 mg, and the maximum dose is 10 mg. Finerenone is not recommended for patients with an eGFR below 25 mL/min/1.73m² due to insufficient data in this population.

Conclusion

- Finerenone has demonstrated significant clinical benefits in the management of diabetic kidney disease, particularly in patients with T2D and albuminuria. Its dual action on both the kidney and cardiovascular system provides a unique advantage over traditional treatments.
- Unlike older MRAs such as spironolactone and eplerenone, Finerenone offers a more targeted approach with a lower risk of hyperkalemia, making it suitable for patients who may be at risk for potassium imbalances.
- Clinical trials, such as **FIDELIO-DKD** and **FIGARO-DKD**, have solidified Finerenone's role in slowing CKD progression, reducing albuminuria, and improving cardiovascular outcomes in high-risk populations.

The integration of Finerenone into clinical practice is well-supported by several major guidelines, including the **KDIGO 2020** guidelines for managing diabetic kidney disease, the **American Diabetes Association (ADA)** guidelines, and the **European Society of Cardiology (ESC)** guidelines.

These guidelines recommend Finerenone as part of a multifaceted approach to managing CKD in T2D, particularly for patients who continue to experience disease progression despite other treatments such as RAAS inhibitors and SGLT2 inhibitors.

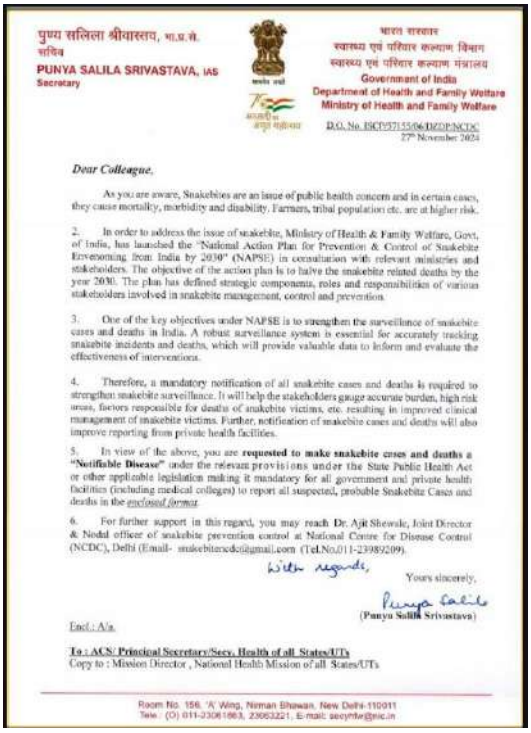
20. Snakebite: an age-old problem - Challenges, Diagnosis, and Management

Dr GD Gupta, Senior Consultant Physician

EDPA President 1997-1999

Introduction

Snakebite envenomation is a significant public health concern worldwide, with an estimated 1.8 million cases and up to 90,000 deaths annually, according to the World Health Organization (WHO). India accounts for nearly 50% of global snakebite deaths, predominantly in rural regions. While North India, including Delhi, is not considered a snakebite hotspot compared to southern and western states, cases continue to emerge, particularly in rural and peri-urban areas where healthcare accessibility is limited.



पुण्य सलिला श्रीवास्तव, भा.प्र.से.
सचिव
PUNYA SALILA SRIVASTAVA, IAS
Secretary

भारत सरकार
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Government of India
Department of Health and Family Welfare
Ministry of Health and Family Welfare

D.O. No. ISCP/57155/04/DIDP/NCDC
27th November 2024

Dear Colleague,

As you are aware, Snakebites are an issue of public health concern and in certain cases, they cause mortality, morbidity and disability. Farmers, tribal population etc. are at higher risk.

2. In order to address the issue of snakebite, Ministry of Health & Family Welfare, Govt. of India, has launched the "National Action Plan for Prevention & Control of Snakebite Envenoming from India by 2030" (NAPSE) in consultation with relevant ministries and stakeholders. The objective of the action plan is to halve the snakebite related deaths by the year 2030. The plan has defined strategic components, roles and responsibilities of various stakeholders involved in snakebite management, control and prevention.

3. One of the key objectives under NAPSE is to strengthen the surveillance of snakebite cases and deaths in India. A robust surveillance system is essential for accurately tracking snakebite incidents and deaths, which will provide valuable data to inform and evaluate the effectiveness of interventions.

4. Therefore, a mandatory notification of all snakebite cases and deaths is required to strengthen snakebite surveillance. It will help the stakeholders gauge accurate burden, high risk areas, factors responsible for deaths of snakebite victims, etc. resulting in improved clinical management of snakebite victims. Further, notification of snakebite cases and deaths will also improve reporting from private health facilities.

5. In view of the above, you are **requested to make snakebite cases and deaths a "Notifiable Disease"** under the relevant provisions under the State Public Health Act or other applicable legislation making it mandatory for all government and private health facilities (including medical colleges) to report all suspected, probable Snakebite Cases and deaths in the *enclosed format*.

6. For further support in this regard, you may reach Dr. Ajit Shewale, Joint Director & Nodal officer of snakebite prevention control at National Centre for Disease Control (NCDC), Delhi (Email- snakebitencdc@gmail.com (Tel.No.011-23989209).

With regards,

Yours sincerely,

(Punya Salila Srivastava)

Encl.: A/a.

To : ACS/ Principal Secretary/Secy. Health of all States/UTs
Copy to : Mission Director , National Health Mission of all States/UTs

Room No. 156, 'A' Wing, Nirman Bhawan, New Delhi-110011
Tele.: (O) 011-23061863, 23063221, E-mail: secyhfw@nic.in

To address this critical issue, the Ministry of Health and Family Welfare has introduced the **National Action Plan for Prevention and Control of Snakebite Envenoming (NAPSE)**, developed in collaboration with various ministries and stakeholders. The action plan aims to reduce snakebite-related deaths by 50% by the year 2030. This initiative underscores the government's commitment to tackling this preventable yet life-threatening health challenge.

The present article is an attempt to revisit this age-old problem, and help understand the changes in diagnostic and treatment protocols of snake bite in India.

Burden of the Problem in India

India reports approximately 50,000 snakebite deaths annually, mainly due to limited awareness, delayed treatment, and restricted access to antivenom therapy. In northern states such as Uttar Pradesh, Rajasthan, and Haryana, agricultural activities and monsoons increase the risk of snakebites. Many bites occur during farming, with victims often unaware of the presence of snakes.

Pathophysiology and Types of Snakebite Envenomation

Venomous snakes in India primarily belong to the families **Elapidae** (e.g., cobras, kraits) and **Viperidae** (e.g., Russell's viper, saw-scaled viper). The venom's effects vary by species:

1. **Elapid Envenomation**:
    - **Neurotoxic Effects**: Paralysis, respiratory failure due to inhibition of acetylcholine receptors.
    - **Clinical Signs**: Ptosis, difficulty breathing, and muscle weakness.
2. **Viperid Envenomation**:
    - **Hemotoxic Effects**: Coagulopathy, thrombocytopenia, and tissue necrosis due to metalloproteinases and serine proteases in venom.
    - **Clinical Signs**: Swelling, pain, bleeding, and shock.
3. **Dry Bites**: Bites without venom injection, which constitute about 10-30% of snakebites.

Snake Venom Delivery Mechanism

- **Crotalids**: Use paired venom glands and long, mobile, hollow fangs in the upper jaw. Venom delivery efficiency varies based on the snake's species, size, health, and recent feeding or venom use. Approximately 90% of crotalid bites inject venom.
- **Coral Snakes**: Have smaller mouths and fixed, short fangs, making venom delivery less efficient. About 30% of their bites are dry. They do not need to chew to inject venom.

Venom Composition

- Snake venom is a complex mix of proteins and non-protein substances, often referred to as a "soup of antigens."

1. **Crotalid Venom**:
    - Contains enzymes like **metalloproteinases, phospholipase, collagenase, and hyaluronidase**, causing **myonecrosis** and **dermatonecrosis**.
    - Hematologic effects include coagulopathy, platelet activation, and thrombotic complications, mediated by serine proteases, disintegrins, and other venom proteins.
    - Specific toxins:

        - **Crotalocytin** (Timber rattlesnake): Induces platelet aggregation.
        - **Mojave toxin** (Mojave rattlesnake): Blocks presynaptic acetylcholine release, causing paralysis.
    - Bradykinin-related peptides contribute to **angioedema** and **hypotension**.

2. **Coral Snake Venom**:
    - Contains **phospholipase A2, proteases, neurotoxins**, and high-molecular-weight proteins.
    - Effects include **neuromuscular paralysis**, **myonecrosis**, **edema**, and **platelet aggregation**.
    - Neurotoxins, particularly **alpha-toxins**, inhibit postsynaptic acetylcholine receptors, leading to weakness and paralysis, reversible with increased acetylcholine.
    - Some components activate the complement system, enhancing venom spread through vasodilation.

Key Venom Effects

- **Crotalid Venom**: Hemotoxic and myotoxic, causing tissue destruction, bleeding, and systemic effects like hypotension.
- **Coral Snake Venom**: Primarily neurotoxic, leading to paralysis, with secondary effects on muscles and the immune system.

Diagnosis

Diagnosis involves correlating clinical features with a history of snakebite:

- **Symptoms**: Pain, swelling, neurotoxic signs, and systemic bleeding.
- **Laboratory Tests**: Coagulation profile (20-minute whole blood clotting test), platelet count, renal function, and imaging for bite site assessment.

Management of Snakebites

1. **First Aid**:
    - Immobilization of the limb to reduce venom spread.
    - Avoid harmful practices such as tourniquets, cutting the wound, or suctioning venom.
2. **Definitive Care**:
    - **Antivenom Therapy**: Polyvalent antivenom is the mainstay of treatment in India, targeting common species like cobras, kraits, Russell's vipers, and saw-scaled vipers. Administered intravenously, it should be used under close monitoring for anaphylaxis.

      Snakebite Envenomation Severity and Management

      Severity of Envenomation

- **Dry Bites**: No venom is deposited, presenting only puncture wounds. Occurs in <10% of pit viper bites and 30–50% of coral snake bites.
- **Minimal Envenomation**: Localized tenderness or bruising near the bite site without systemic or lab abnormalities.
- **Mild Envenomation**: Local swelling extends to a nearby major joint (e.g., wrist, ankle) without systemic effects.
- **Moderate Envenomation**: Non-life-threatening symptoms (e.g., vomiting, hematotoxicity) and swelling beyond two joints.
- **Severe Envenomation**: Extensive tissue damage and/or systemic toxicity, including hypotension, airway swelling, or paralysis.

Snakebite Severity Score (SSS)

Used in research to evaluate local and systemic effects across five body systems. Scores <5 often exclude antivenom but may lead to undertreatment. SSS is not validated for clinical decision-making.

Prehospital Management

a) Ensure **scene safety**; avoid snake capture.
b) Prioritize airway, breathing, and circulation.
c) Elevate the limb (above heart level if systemic toxicity is unlikely).
d) Avoid harmful interventions: tourniquets, suction devices, prolonged cryotherapy, and incision/suction techniques.

Emergency Department Care

a) Address life-threatening conditions: airway management, IV fluids for hypotension, and epinephrine for anaphylaxis.
b) Administer analgesics (opioids preferred; avoid NSAIDs).
c) Elevate the envenomated limb to reduce swelling.

Antivenom Use

a) Indicated for significant local progression (e.g., necrosis or swelling beyond a joint) or systemic toxicity.
b) Initial dose for neurotoxic bites: **200 mL of polyvalent ASV**, with maintenance doses of 100 mL every six hours until recovery (Administer maintenance dosing of 2 vials of antivenom every 6 hours for 3 doses, at 6, 12, and 18 hours after initial control of symptoms is achieved)

Follow-Up

a) Monitor for delayed symptoms (e.g., abnormal bleeding, serum sickness).
b) Advise precautions against bleeding risks (e.g., no elective surgery for two weeks).
c) Plan follow-up lab tests at 2–3 and 5–7 days post-discharge.

- **Supportive Care**: Includes respiratory support, hemodynamic stabilization, and managing complications like renal failure or coagulopathy.

3. **Rehabilitation**:
   - Physical therapy for recovery in cases of tissue damage or paralysis.

Availability of Antivenom in North India

Antivenom is accessible in most tertiary hospitals and medical colleges in Delhi, including AIIMS and Safdarjung Hospital. However, rural health centers may face shortages, underscoring the need for improved supply chains and storage infrastructure.

Key Takeaways for Physicians

1. **Rapid Intervention**: Snakebite management requires careful assessment of envenomation severity and evidence-based treatment, emphasizing antivenom use for significant local or systemic effects while avoiding outdated or harmful interventions. Early administration of antivenom is crucial for better outcomes.
2. **Avoid Myths**: Educate patients about evidence-based practices and debunk traditional or harmful methods.
3. **Holistic Care**: Provide both acute management and post-envenomation rehabilitation.
4. **Prevention**: Advocate for protective gear during farming, education on identifying venomous snakes, and precautions in endemic areas.

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21. The Unsettling Reality of Premature Myocardial Infarction amongst Doctors

Dr (Prof) Saroj Prakash, MD Medicine, Senior Consultant Physician

EDPA President, 1995-1997

Introduction

As 'practice- hardened' doctors, we've grown accustomed to associating heart disease with older adults, often viewing it as an inevitable consequence of aging. However, the harsh reality is that atherosclerosis, the underlying cause of most MIs, is increasingly affecting younger populations. The statistics are staggering: according to recent studies, the incidence of MI among individuals under 40 has increased by over 20% in the past decade alone.

ऑपरेशन थियेटर में ऑर्थोपेडिक सर्जन की तबीयत बिगड़ी, मौत

तीन दिन से सांस लेने में हो रही थी दिक्कत, कार्डियक अरेस्ट से मौत की आशंका

सपा प्रमुख अखिलेश यादव ने दी श्रद्धांजलि

लालगंज के पूर्व एमएलए के पोते थे डॉक्टर अभिषेक

Government of India
Ministry of Health & Family Welfare
Atal Bihari Vajpayee Institute of Medical Sciences
Dr. Ram Manohar Lohia Hospital, New Delhi

Dated 11th Dec, 2024

CONDOLENCE MESSAGE

It is with deep sadness and heavy hearts for ABVIMS & Dr. RML Hospital for the loss of Dr. Adil Amin (31.01.1987 to 11.12.2024) working as Senior Resident in General Medicine since 11th March, 2021.

Our deepest sympathy & heartfelt condolences with his family & friends during this tough time. Please accept sincere condolences from ABVIMS & Dr. RML Hospital for your profound loss.

Our deepest condolences to his bereaved family & friends may his soul rest in eternal peace.

Dr. (Prof.) Ajay Shukla
Director & Medical Superintendent

Another staggering and rather unsettling fact is that Premature deaths among young doctors in India have increased and become a pressing concern, with several high-profile incidents highlighting this troubling trend. The sheer number of lives being lost regularly to this preventable condition is nothing short of alarming. Factors such as high stress levels, long working hours, poor work-life balance, inadequate sleep, and lack of

regular health check-ups are common contributors to the early mortality seen in the medical community.

Key Findings on Premature Deaths:

1. **Stress and Overwork**: Doctors often work under extreme stress due to long hours, high patient loads, and the emotional toll of dealing with critical cases. This has been linked to burnout and physical health issues like hypertension and heart disease

2. **Cardiac Conditions**: Cardiac arrests are a leading cause of premature death among doctors. Studies have shown that doctors have a significantly higher risk of cardiovascular diseases compared to the general population

3. **Mental Health Challenges**: Depression, anxiety, and burnout are prevalent among healthcare professionals, occasionally leading to suicides. The high expectations from patients and systemic issues in healthcare further exacerbate this

4. **Lifestyle Factors**: Irregular eating habits, lack of physical activity, and reliance on stimulants (e.g., caffeine or tobacco) are common. Many doctors neglect their own health due to time constraints

5. **Lack of Preventive Care**: Many doctors fail to undergo routine health checks, which could identify and mitigate risks like diabetes, hypertension, or early signs of coronary artery disease

Helpless situation or can we do something?

As medical professionals, we are trained to save lives, to heal, and to comfort. Yet, we find ourselves increasingly helpless in the face of this growing incidence of premature myocardial infarction (MI) among young doctors.

As clinicians, we're forced to confront the uncomfortable truth that our efforts, though well-intentioned, often feel like a mere drop in the ocean. We can only watch as young lives are cut short, leaving behind devastated families and a trail of unanswered questions. The feeling of powerlessness is overwhelming, and it's tempting to become desensitized to these tragedies.

But we cannot afford to become complacent. As healthcare providers, it's our duty to sound the alarm, to raise awareness about the growing threat of premature MI amongst ourselves as well as general public, and to advocate for change. We must acknowledge that the root causes of this epidemic extend far beyond the confines of our hospitals and clinics.

The rise of premature MI is a symptom of a broader societal problem: a culture that prioritizes convenience over health, processed foods over nutrition, and sedentary lifestyles over physical activity. It's a problem that demands a multifaceted solution, one that involves policymakers, educators, community leaders, and individuals working together to create a healthier environment.

As doctors, we can start by re-examining our approach to preventive care in our lifestyle. We must emphasize the importance of lifestyle modifications, such as a balanced diet, regular exercise, and stress management, to ourselves and our patients. We should also advocate for increased funding for cardiovascular research, as well as initiatives that promote healthy behaviors and disease prevention.

The loss of young lives amongst our fellow colleagues to premature MI is a tragedy that we can no longer afford to ignore. It's time for us to come together as a medical community, as a society, and as individuals to address this growing epidemic. We owe it to ourselves, our patients, and the memories of those who have been lost to this preventable condition.

Implications and Takeaways for us:

1. **Prioritize Personal Health**: As clinicians , we must adopt healthier lifestyles, including regular exercise, balanced diets, and sufficient sleep.
2. **Regular Health Check-ups**: We should schedule ourselves periodic screenings for common health risks, such as cardiovascular issues, diabetes, and mental health concerns.
3. **Stress Management**: Practices like yoga, meditation, and counselling can help mitigate stress and improve overall well-being.
4. **Work-Life Balance**: Hospitals and clinics should implement policies to ensure reasonable working hours and adequate time off for rest and recovery.
5. **Systemic Changes**: Advocacy for better workplace conditions, fair compensation, and improved senior - junior relationships can alleviate some pressures faced by medical professionals.

The trend serves as a wake-up call for both individual practitioners and healthcare systems to address these risks proactively. Healthier doctors mean better care for patients and a more sustainable healthcare ecosystem.

22. Navigating Social Media as a Physician in the Digital Age: A New Paradigm

Dr Achal S Dave, Senior Consultant Physician

EDPA President, 2001-2003

Introduction:

The practice of medicine has witnessed an unprecedented transformation over the last few decades. For physicians like me who began their careers in an era devoid of mobile phones, the internet, or social media, the evolution to a hyper-connected, digital world has been nothing short of revolutionary. Social media, in particular, has become deeply embedded in daily life, reshaping communication, education, and even professional practice.

For doctors, this presents unique opportunities and challenges. Platforms like Twitter, Facebook, Instagram, and LinkedIn allow unprecedented reach for patient education, professional networking, and advocacy. However, they also bring ethical dilemmas, privacy concerns, and the risk of misinformation. As professionals bound by codes of conduct and patient confidentiality, navigating these spaces demands careful consideration.

This article is my attempt to explore the essential guidance for physicians on responsible social media use esp in the context of adhering to the NMC Social Media Guidelines for Registered Medical Practitioners.

City Punemirror Saturday, November 30, 2024 5

MMC restricts social media misuse by docs

Medical council terms practice unethical, comes up with new guidelines

REAL RICH

By adhering to ethical principles and leveraging these platforms wisely, EDPA doctors can maintain professionalism, safeguard trust, and contribute positively to public health discourse in the digital age.

The National Medical Commission (NMC) of India has issued comprehensive guidelines to ensure that Registered Medical Practitioners (RMPs) use these platforms responsibly. The NMC's code of conduct highlights the ethical boundaries and professional decorum that

doctors must maintain while engaging in online activities. These guidelines aim to safeguard patient confidentiality, uphold the dignity of the medical profession, and prevent the misuse of social media for unethical practices. These regulations are aimed at ensuring responsible advertising, maintaining professional ethics, and protecting patient interests.

Below, I have tried to delve into the key aspects of these guidelines, their implications, and their significance for practicing doctors Delhi and across India.

NMC Guidelines on Social Media Conduct and Advertisement Restrictions for RMPs (2022)

1. **Information Sharing:**
    - Registered Medical Practitioners (RMPs) may share medical information and announcements on social media, provided the content is factual, verifiable, and not misleading or deceptive. Misleading or exaggerated claims about treatments, outcomes, or personal expertise are prohibited.
    - Content must not exploit patient vulnerabilities or lack of knowledge.
    - Public discussions of specific treatments, patient cases, or medical advice must be avoided. RMPs are encouraged to use professional judgment to ensure they do not exploit patient vulnerabilities.

2. **Patient Confidentiality:**
    - Discussions about patient treatments should not take place on public social media platforms.
    - RMPs must not share patient details, images, scans or or any identifiable data on social media, even if anonymized, without explicit informed consent. The aim is to safeguard privacy and ownership of sensitive data Violations of this guideline can lead to disciplinary actions as per NMC regulations.

3. **Prohibition of Misleading Practices:**
    - RMPs must refrain from purchasing social media “likes” or “followers.”
    - Soliciting or encouraging patient testimonials, endorsements, recommendations, or reviews via social media is unethical.
4. **Restrictions on Content:**
    - RMPs must not share images or videos of healed patients, surgeries, or medical procedures that display outcomes, even if impressive.
    - These restrictions apply universally, including any personal or professional webpages managed by RMPs.
5. **Public Education:**

- RMPs are permitted to use media for public education purposes, provided the content is informative and does not solicit patients or promote their services directly.

6. **Ban on Solicitation:**
    - Direct or indirect solicitation of patients through social media platforms is considered unethical. This includes offering consultations in the comments section of posts or encouraging patients to seek medical advice through social media.

7. **Permissible Announcements:**
   Registered Medical Practitioners (RMPs) may issue formal announcements in print, electronic, or social media, restricted to the following circumstances and within three months of the event:
    1. Starting or resuming practice.
    2. Changing practice type, location, or address.
    3. Temporary absence from duty.
    4. Succeeding another practice.
    5. Declaring public charges.

8. **Institutional Announcements:**
   Maternity homes, nursing homes, private hospitals, rehabilitation centers, or medical training institutions may issue public announcements in the lay press. These must be limited to:
    1. Name of the institution.
    2. Type of patients admitted.
    3. Details of training programs or facilities offered.
    4. Associated fees.

9. **Ethical Online Behavior:**
    - All social media activities should align with professional integrity and ethical standards expected of healthcare providers.

These guidelines aim to maintain professional decorum and safeguard patient confidentiality in the digital era, emphasizing ethical and responsible social media use by medical practitioners.

Key Points of the NMC Social Media Code for RMPs

1. **Prohibition on Manipulation:**
    - Buying followers, likes, or engaging in any practice to artificially boost online visibility or credibility contravenes the code of conduct.

2. **Adherence to Professionalism:**

- RMPs are expected to conduct themselves with decorum on social media platforms, avoiding behavior or posts that might bring disrepute to the medical profession.

3. **Educational Content:**
    - Sharing general health awareness posts or educational content is allowed, provided it does not breach any of the above ethical guidelines.

Practical Implications for Practicing Doctors in Delhi and India

1. **Ensuring Compliance with Patient Confidentiality:**

   Delhi, being a healthcare hub, witnesses numerous doctors actively engaging in social media to share medical insights. The guidelines underscore the need for Delhi's medical community to exercise caution when discussing cases online. RMPs must establish clear boundaries between sharing educational material and divulging patient information.

2. **Balancing Professional and Personal Online Presence:**

   Doctors often use platforms like Facebook, Instagram, and Twitter to communicate with the public. While sharing medical advancements or health tips is encouraged, RMPs must avoid crossing into areas that might be construed as promotional or commercial. For instance, Delhi-based clinics known for active online campaigns must ensure compliance with the anti-solicitation clause.

3. **Challenges of Navigating Patient Queries Online:**

   Many doctors in India receive unsolicited medical queries from patients on platforms like WhatsApp and Instagram. The guidelines clarify that such interactions should not replace formal consultations. RMPs must redirect patients to appropriate clinical settings to avoid potential liabilities.

4. **Ethical Dilemmas in Social Media Marketing:**

   The prohibition on manipulating visibility metrics challenges the widespread practice of buying online reviews or followers to enhance credibility. Doctors practicing in competitive urban environments like Delhi must now rely on ethical and organic methods to build their professional reputation online.

5. **Opportunities for Public Health Education:**

   The guidelines do not deter doctors from using social media for public benefit. Delhi's physicians can harness these platforms to combat misinformation, promote health awareness campaigns, and address public health issues responsibly.

Steps EDPA Doctors Can Take to Align with the NMC Guidelines

1. **Audit Online Activity:**
    - Review and remove any past posts that may inadvertently violate patient confidentiality or appear promotional.

2. **Use Secure Channels for Patient Interaction:**

- Transition patient interactions to secure and formal consultation platforms rather than open social media channels.

3. **Stay Informed:**
    - Regularly update oneself about the latest NMC regulations and seek legal counsel if unsure about compliance.
4. **Promote Education, Not Treatment:**
    - Focus on general health education rather than discussing specific treatments or outcomes.
5. **Engage with Professional Communities:**
    - Participate in forums and platforms designed for peer-to-peer medical discussions rather than public domains.

Conclusion

The NMC's social media guidelines for RMPs are a timely intervention in the age of digital health communication. By emphasizing patient confidentiality, professionalism, and ethical conduct, these regulations ensure that social media serves as a tool for education and awareness rather than exploitation. For Delhi's vibrant medical community and practitioners across India, adherence to these guidelines not only safeguards their professional standing but also fosters trust and credibility with patients.

By respecting these boundaries and leveraging social media responsibly, doctors can continue to make meaningful contributions to public health while upholding the sanctity of the doctor-patient relationship.

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23. Mystery of Navel, Science of Health and linkage with modern medicine

Dr Neeraj Jain, Gastroenterologist

EDPA President, 2003-2005

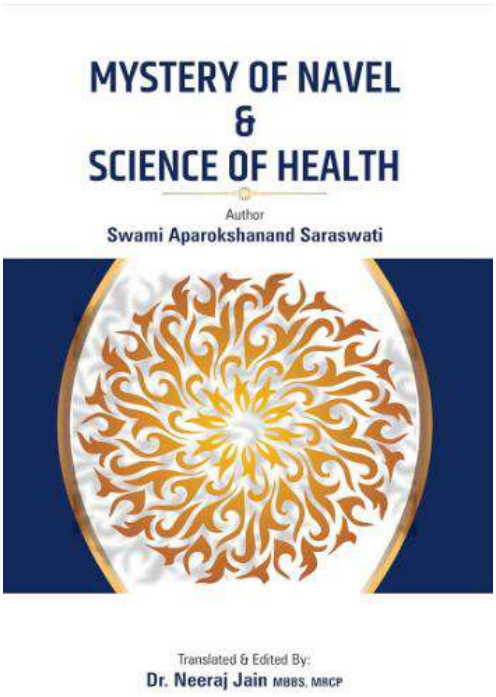
The beginning

Swami Arogyanand Saraswati: A Pioneer in Yogic Sciences

Swami Arogyanand Saraswati, a renowned Yogic master, completed his MSc and qualified as a Rajyog Acharya and Pranacharya. He devoted his life to Yogic sciences from 1968 onwards, residing in Gangotri Dham. His seminal work, "The Mystery of the Navel and the Science of Health," was first published in Hindi in 1996. This comprehensive guide outlines the principles of achieving complete health without relying on medication using the science of Navel.

My journey in to this fascinating field

I'm a Delhi-born medical professional, who graduated from Armed Forces Medical College in India. I worked in the Neurology department at AIIMS before moving to the United Kingdom to gain expertise in Cardiology and Gastroenterology. After completing my MRCP, I met Swami Arogyanand Saraswati while searching for alternative therapies for my brother-in-law, who had been diagnosed with Glioblastoma Multiforme. Under Swami Ji's guidance, I delved into the mysteries of the navel and its potential applications in modern medicine, particularly in Gastroenterology and GI disorders. By integrating Yogic principles into his practice, I observed significant improvements in patients with navel displacement, reducing their reliance on medication. Below is my attempt to explain in simple language what is the navel and what is the science behind this.



What is a Navel and the Science of Navel in Ancient Hindu Literature?

The navel, commonly referred to as the belly button, is a small depression located on the abdomen of placental mammals. Clinically, it is termed the umbilicus (plural: umbilici or umbilicuses). This prominent feature on the

human body marks the site where the umbilical cord connected a developing fetus to its mother, serving as the vital channel for nourishment during gestation. Once the cord is detached post-birth, the navel becomes a permanent scar, varying in shape and form among individuals.

Anatomy of the Navel

The navel's anatomical position is consistent across humans, lying at the junction between the L3 and L4 vertebrae, although slight variations occur. It is surrounded by periumbilical skin and supplied by the T10 thoracic spinal nerve. The navel includes the "umbilical tip" or cord remnant, encircled by the dense fibrous umbilical ring known as the "umbilical collar." Beneath it lies the urachus, a fibrous cord extending to the bladder. These components reflect the navel's intricate anatomy and its role as a physical and symbolic connection to life.

Navels can vary in shape and form, classified into types such as "innie" (concave) or "outie" (protruding). Other forms include round, oval, T-shaped, and even distorted types, each contributing to the unique scar that defines an individual.

Clinical and Cultural Significance

From a clinical perspective, the navel is associated with various conditions, such as umbilical hernias, umbilical sinuses, and infections in newborns. In modern medicine, it serves as a site for minimally invasive surgeries like appendectomies and gallbladder procedures to minimize visible scarring.

Culturally, the navel has held contrasting significance. In Western traditions, it was often hidden, deemed private or taboo. Conversely, in Eastern cultures, including India, the navel has been prominently displayed, especially in traditional attire like sarees and lehengas. Today, navel exposure and piercing have gained global popularity as symbols of fashion and self-expression.

Beyond fashion, the navel has deep spiritual connotations. Many cultures view it as a center of life and energy. In Japanese tradition, the navel symbolizes the origin of life. In Buddhist thought, it corresponds to the Manipura Chakra, representing power and vitality. In Qigong, it serves as the body’s energy hub. Hinduism, too, places profound importance on the navel, associating it with the Kundalini energy, believed to be a divine force located at the body's core.

The Science of Navel in Ancient Hindu Literature

In Hinduism, the navel is often regarded as a spiritual epicenter, deeply intertwined with ancient cosmology and philosophy. According to Hindu texts, the navel is the origin point of creation. Lord Vishnu, the preserver of the universe, is often depicted with a lotus sprouting from his navel, upon which Brahma, the creator, is seated. This symbolizes the birth of the cosmos and the interconnectedness of all life.

The concept of "Nabhi" (navel) extends into yogic practices and Ayurveda. The Manipura Chakra, situated at the navel, is considered the seat of energy, vitality, and transformation. Balancing this chakra is believed to enhance personal power, confidence, and digestion, reflecting the navel's symbolic role in fostering physical and spiritual well-being.

Ancient texts like the Upanishads and the Bhagavad Gita emphasize the importance of the navel in meditation and energy flow. It is described as a focal point for breath control and life force (prana), underscoring its role in maintaining harmony between the body and mind.

In Ayurveda, the navel is viewed as a diagnostic and therapeutic center. Applying oil to the navel, a practice known as "nabhi chikitsa," is said to address ailments related to digestion, skin, and overall

energy balance. This ancient practice highlights the navel's holistic importance in maintaining health and vitality.

The Importance of Nabhi (Umbilicus) in Embryology and Ayurveda

During embryonic life, the Nabhinadi (umbilical cord) connects the fetus to the mother's Rasavahanadi, carrying essential nutrition, or Ahararasavirya, to the developing Garbha (fetus). After birth, when this cord is cut, the remaining scar is called Nabhi, known in modern science as the umbilicus. This scar forms on the anterior abdominal wall at the root of the umbilical cord, with its position typically in the anterior median line at the L3-L4 vertebrae level, though variations occur due to factors like abdominal distension or obesity.

In Ayurveda, the Nabhi represents the root of Sira and Dhamani, correlating to the vascular system's arteries and veins. Embryologically, it serves as the meeting point of three systems: digestive, excretory (urachus), and vascular (umbilical vessels). Notably, the umbilicus is a site for portal-systemic anastomoses, where tributaries of the portal vein connect with systemic veins. Conditions like portal hypertension may cause dilation of these veins, forming the characteristic caput medusa.

Anatomically, the umbilical region lies at the abdomen's center, housing critical structures such as the aorta, inferior vena cava, small intestine coils, and stomach. Its Marma Sthana (vital point) spans a 4-Angula circumference, encompassing neurovascular, visceral, and skeletal components. Injury to this area can result in severe internal hemorrhage and shock due to the vulnerability of vascular structures like the abdominal aorta and superior mesenteric artery.

The umbilical region plays a key role in digestion. The midgut forms the primary intestinal loop, including the duodenum (seat of Agni), jejunum, and ileum. These structures handle digestion and nutrient absorption, supported by complex nerve networks such as the enteric nervous system (ENS), which regulates gut motility, secretions, and reflexes.

In Ayurveda, the Nabhi is a site of Udan Vayu, essential for digestion, energy (Bala), complexion (Varna), and vitality (Oja). Practices like oil or ghrita application on the Nabhi are recommended to promote glowing skin and overall well-being, highlighting its holistic importance as a center of physiological and spiritual energy.

Conclusion

The navel, though small, carries immense significance across clinical, cultural, and spiritual domains. Its anatomy and physiology provide insight into human development, while its symbolic and cultural roles reflect the diverse ways it is revered globally. In ancient Hindu literature, the navel transcends its physicality, representing the core of existence, energy, and creation. Understanding the navel's multifaceted significance invites us to appreciate its role not only as a biological feature but also as a gateway to deeper spiritual and cultural wisdom.

24. An interesting case of Pulmonary Thromboembolism

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Dr Meghna, DNB Resident, Max PPG

Abstract

Pulmonary thromboembolism (PTE) is a life-threatening condition that requires prompt diagnosis and management. This case report discusses a 36-year-old male presenting with progressive shortness of breath and dry cough, eventually diagnosed with recurrent venous thromboembolisms (VTEs) due to a hypercoagulable state. Initial investigations revealed a large filling defect in the left pulmonary artery and severe tricuspid regurgitation with pulmonary arterial hypertension. Extensive thrombophilia workup highlighted elevated homocysteine levels and homozygosity for the MTHFR C677T mutation, alongside seronegative antiphospholipid syndrome features. The patient experienced challenges with anticoagulation, developing multiple bleeding episodes necessitating treatment modifications. This case underscores the complexity of diagnosing and managing hypercoagulable states and emphasizes the need for personalized approaches to anticoagulation in patients with recurrent thromboembolism.

Introduction

A 36-year-old male patient, an accountant in a private school, a resident of Delhi, and Hindu by religion, presented to our OPD with complaints of Shortness of Breath since 2 months of initial presentation and Dry Cough for 2 months.

History of Presenting Illness

The patient was apparently normal 2 months back when he developed shortness of breath, which was insidious in onset, and gradually progressive. Initially, he had breathlessness on climbing 1-2 flights of stairs and slowly progressed to walking 100 meters on level ground. It was aggravated by exertion and relieved at rest.

There was no relation with changes in posture, no history suggestive of PND, and no Diurnal variation.
The patient also complained of fatigue, which was present throughout the day and not associated with joint pain, or dizziness.
The patient also complained of a non-productive cough, insidious in onset, non-progressive, non-positional, with no diurnal variation.
There was no chest pain, orthopnea, PND, cough with pinkish sputum, syncope or presyncope, swelling of feet, pain in the right hypochondrium
There was no history of fever, wheezing, cough with expectoration, allergic symptoms,
There was no history of bluish discoloration of skin or mucous membranes
There was no history of prolonged immobilization, travel, or recent surgeries

Past history:

He had no similar complaints in the past
There was no history of Asthma, COPD, DM, Hypertension, IHD
There was no history of any contact with TB patients

Family history: No significant family history

Personal History:
The patient has a mixed diet and a preserved appetite, his bowel and bladder movements were normal and regular. His sleep was undisturbed. He gave a history of occasional alcohol consumption and regularly chewing tobacco, around 2-3 packets per day. He is not a smoker.

On Examination,

A 36-year-old male patient was moderately built and nourished, was conscious, cooperative, alert, and was well oriented to time place, and person.

Vitals:
His **Pulse** was110 bpm, in the left radial artery, regular in rhythm, normal volume, character, no radio-radial or radio femoral delay, no vessel wall thickening, and all peripheral pulses were felt
His **BP** in the Right arm was 100/70 mmHg and it was the same in the other arm.
His **respiratory rate** was 20 cycles per minute and the respiration was abdomino- thoracic.
His **saturation** was 94% on room air.
His **JVP** was raised
There was no Pallor, icterus, clubbing, cyanosis, lymphadenopathy, or pedal edema.

Systemic examination: Cardiovascular system
On **Inspection,**

- The chest shape was normal and symmetrical with no precordial bulges, the spine was central with no deformities, and the apex beat could not be visualized.
- His epigastric pulsations and left parasternal heave were visible.
- There were no visible distended veins on the chest or any scars or sinuses

On **Palpation,**

- His Trachea was central. The parasternal heave could not be obliterated
- Parasternal heave: couldn't be obliterated
- The Apex beat was palpated in the left 5th intercostal space, medial to the midclavicular line.
- No thrills were palpable.
- **Percussion** was not performed.

On **Auscultation**,

- S1 heart sound was louder than S2 in the tricuspid and mitral regions and S1 was heard normally. A loud P2 was heard in the pulmonary area with no split
- A pan systolic, grade 5 Blowing murmur was heard in the tricuspid region, best heard with the diaphragm of the stethoscope, which increased with inspiration and decreased with Valsalva and was non-radiating
- No additional heart sounds, or opening snaps were heard.
- The respiratory, nervous system, and per-abdomen examinations were within normal limits.

He was provisionally diagnosed as a case of **right heart failure -NYHA Grade III with severe TR and severe PAH.**

<u>Lab and Radiological investigations:</u>

- The patient presented to us with a chest x-ray:- a small cavity was noted in the left upper zone, rest of the lung parenchyma was normal
- He was advised to get an HRCT chest on which no lung parenchymal lesion was seen (except a small nonspecific cavity in the left upper lobe) and a ? Left pulmonary artery thrombus was noted; An ECG was done, which showed Sinus tachycardia

The patient was admitted and investigated further:

CT pulmonary Angiogram with DVT protocol was advised which showed:

- A Large filling defect in the **left main** pulmonary artery, extending into the lobar and segmental branches, more so in the lower lobe, suggestive of **pulmonary thromboembolism**
- The main pulmonary trunk and right pulmonary arteries and branches appeared normal
- A small nonspecific cavitary lesion in the left upper lobe anteriorly
- No evidence of any Deep vein thrombosis
- Filling defect in **Left renal vein s/o thrombus**

On 2D ECHO,

- His heart rate was 108/min; His RA and RV were dilated ; RV systolic dysfunction was noted. TAPSE: 14MM ; There was severe TR, with an RVSP of 75 mmHg.
- Paradoxical septal motion was noted, LVEF= 55% ; Trace MR was seen;
- There was no intracardiac clot or vegetation
- There was no Pericardial effusion

Basic Blood investigations showed:

- On CBC, his hemoglobin was 10.9gm/dl with an MCV of 91.1. His liver and Kidney function tests were within normal limits, His lipid profile, thyroid profile, and HBA1C were in the range. His INR was 1.33, APPT was in range, CRP was 38, and Tests for HIV, Anti HCV IGG, and HBsAg were non-reactive.

- He was worked up for causes of thrombophilia and found to have a normal Protein C, Protein S, antithrombin 3; ANA by IF, LIA and Vasculitis panel, P and C ANCA, Factor V Leiden mutation, and HLA- B27 were found to be negative.

He was also worked up for Antiphospholipid syndrome and was found to be negative for lupus anticoagulant and anti-cardiolipin (IGG, IGM, IGA) antibodies.
On testing the Beta 2 glycoprotein Profile, he was

- Negative for Beta 2 glycoprotein IGG,
- Equivocal for Beta 2 glycoprotein IGM, the Test value was 7.5 (7-10 being considered as equivocal and >10 as positive). This antibody is included in the Modified Sapporo criteria for APS (2006)
- Positive for Beta 2 glycoprotein IGA. test value was 45, but This antibody is not included in the Modified Sapporo criteria for APS (2006)

It was decided to repeat the beta 2 glycoprotein test after 12 weeks

The course of the patient

A Diagnosis of pulmonary thromboembolism was made and the patient was started on LMWH for 2 weeks as bridging therapy and warfarin 5mg OD, which he took for 15 days, then developed a pr bleed (at an INR of 1.8), was diagnosed with grade 1 hemorrhoids, was managed conservatively.

Consequently, he was shifted to apixaban 5mg BD which he took for 1 and a half months, following which he again developed PR Bleed with a 2gm% drop in his hemoglobin, following which he was operated on for the same and was transfused 1 unit of packed red blood cells.
A CT-PA was repeated in the same admission (which was after 2 and a half months of the initial presentation) to look for the progression. (findings explained below).
He was discharged on Rivaroxaban 20mg OD

He then developed hemoptysis- 1-2 episodes minimal amount, stopped rivaroxaban, found to have low HB, 1-unit PRBC was transfused again, then discharged on apixaban 2.5mg OD (with episodes of hemoptysis on attempting to increase the dose)

The patient is on regular follow-up and complains of Bilateral Calf pains intermittently.
His current medications are:

- Apixaban 2.5mg OD
- Ambrisentan 5mg OD
- Selexipag 200mcg bd
- Riociguat 0.5mg bd

CT pulmonary angiography done 2 months later showed

- A **Large hypodense filling defect in the left pulmonary arter**y, extending into lobar and segmental arteries in the left upper lobe - **persistent**
- A linear defect was seen in one of the segmental branches of the **pulmonary artery in the right lower lobe - partial thrombus - NEW**
- Small caliber right superficial femoral vein

2D ECHO Done 2 Months Later showed:

- heart rate - 110/min;
- **RA and RV were dilated**
- Normal RV systolic function was noted. TAPSE: 18MM
- There was **severe TR, with an RVSP of 80 mmHg.**
- Paradoxical septal motion was noted, **LVEF= 45%**
- Mild MR was seen
- IVC was dilated
- There was no intracardiac clot or vegetation
- There was no Pericardial effusion

The Patient was worked up further on an OPD basis,
He was found to have a mildly elevated homocysteine level, the test value was 62. (range= 6-15) ; He was homozygous for the MTHFR C677T gene mutation. His Beta 2 glycoprotein IgM was retested and found to be 8.1 (still equivocal)

His final diagnosis was made as:

Middle-aged male patient with recurrent VTEs secondary to hypercoagulable state,
With likely aetiology:

- **Seronegative Antiphospholipid Syndrome**
- **Hyperhomocysteinemia secondary to MTHFR (C667T) mutation**

25. Chronotherapy In Hypertension

Dr Susheel Tyagi, MD, FIACM (Consultant Physician, Avantika Hospital)

Introduction

India is experiencing a rapid rise in non-communicable diseases (NCDs), despite its high burden of infectious diseases and maternal and child health issues. Hypertension is one of the significant risk factors for preventable and premature deaths globally. Only a proportion of adults with hypertension are diagnosed and receive recommended treatment despite the availability of inexpensive and efficacious treatment.

Worldwide awareness, diagnosis, and treatment coverage among adults have been reported as 46%, 42%, and 21%, respectively. This gap in the management of hypertension is one of the critical reasons for the increased prevalence of hypertension in low-and middle-income countries, especially in South Asia.

The national prevalence of hypertension in the sampled age group was 18.3% (95% CI: 18.1%–18.4%) and 16.3% (95% CI: 16.2%–16.4%), with three and two blood pressure measurements, respectively.

The 2024 Guidelines continue to define hypertension as office systolic BP of ≥140 mmHg or diastolic BP of ≥90 mmHg. However, a new BP category called '**Elevated BP'** is introduced. Elevated BP is defined as an office systolic BP of 120–139 mmHg or diastolic BP of 70–89 mmHg.

Importance of circadian rhythm in hypertension

Circadian rhythms are controlled by the central clock, which resides in the suprachiasmatic nucleus of the hypothalamus and peripheral clocks throughout the body. Both light and food cues entrain these clocks but whether these cues are important for the circadian rhythm of BP is a growing area of interest.

The peripheral clocks in the smooth muscle, perivascular adipose tissue, liver, adrenal gland, and kidney have been recently implicated in the regulation of BP rhythm. Dysregulation of the circadian rhythm of BP is associated with adverse cardiorenal outcomes and increased risk of cardiovascular mortality.

A better understanding of peripheral clock function in regulating the circadian rhythm of BP will help pave the way for targeted therapeutics in the treatment of circadian BP dysregulation and hypertension.

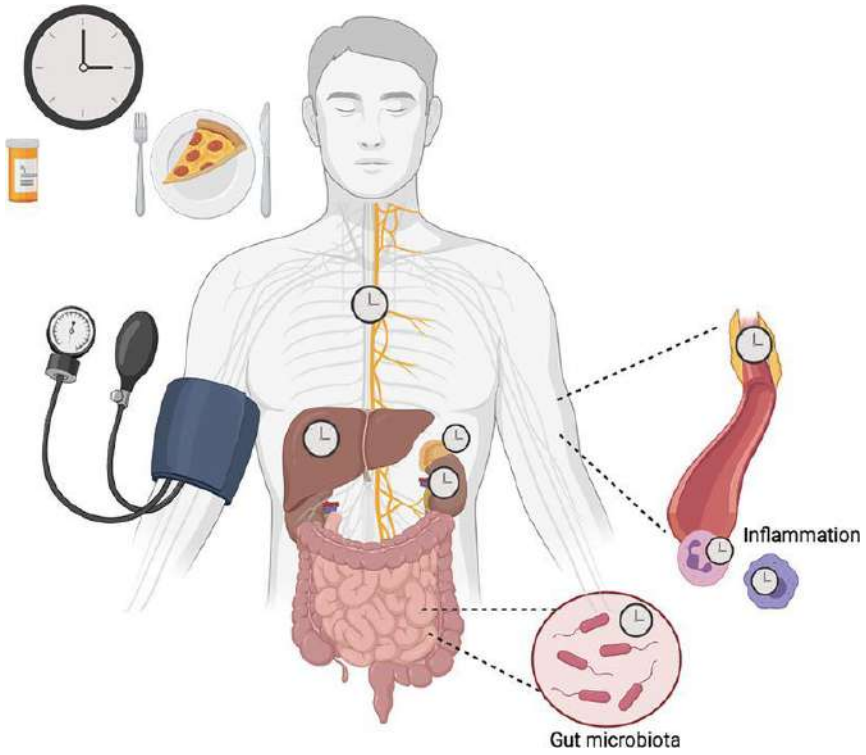

Fig.1: Cellular circadian clocks throughout the body, entrained by food cues, contributing to the circadian rhythm of blood pressure**.**

Blood pressure has a 24-hour cycle, peaking during the day and dipping by 10–20% during the night. Studies in rodents and humans suggest peripheral clocks within the vasculature, liver, adrenal glands, kidneys, microbiota in the gut, immune system, and autonomic nervous system contribute to regulation of the circadian rhythm of blood pressure (BP). These peripheral clocks can be entrained by food cues therefore, time-of-day feeding could be important for BP rhythm. Dysregulation of the circadian rhythm of BP is associated with adverse cardiorenal outcomes and increased risk of cardiovascular mortality.

Blood pressure variability

BP is a dynamic parameter, which undergoes fluctuations due to many internal and external factors interacting with it. There are pathological conditions impacted by enhanced BP variability such as impaired cardiovascular regulation associated with CAD, stroke, heart failure, dementia, chronic kidney disease, causing an increase in all cause and cardiovascular mortality.

Night time Dipping

The following dipping patterns are based on variation in ambulatory SBP during the night and comparison with typical day time values

- Normal dippers: 10-20% fall in SBP

- Non dippers: 0-10% fall in SBP
- Extreme dippers: >20% fall in SBP
- Risers: No fall or overall rise in SBP

Nocturnal Hypertension: According to European guidelines NH is defined as SBP≥ 120 mm Hg and/or DBP≥ 70 mm Hg.

Early morning surge of BP: An increase in systolic BP by approximately 3 mm Hg/h or diastolic BP by 2 mm Hg/h or an absolute value of > 135/85 mm Hg.

Monitoring of BP Ambulatory blood pressure monitoring (ABPM) is useful for measuring the fluctuations in an individual's BP during activities of daily living over a period of 24-48 hours. ABPM consists of measuring parameters, such as SBP, DBP, pulse pressure, and pulse rate, which is followed by calculating indices like hyperbaric impact (HBI), morning surge, diurnal index, mean SBP/DBP, and percentage time elevation (PTE). These measurements are performed at regular interval of 30-60 minutes

Treatment

The ultimate goal of the management of hypertension is to achieve good 24-hour BP control which includes:

- Lowering 24-hour BP.
- Maintaining the nocturnal BP and dipping.
- Maintaining morning surge of BP.
- Suppressing exaggerated variability in blood pressure.

HYGIA Trial shows routine ingestion by hypertensive patients of ≥1 prescribed BP-lowering medications at bedtime, as opposed to upon waking, results in improved ABP control (significantly enhanced decrease in asleep BP and increased sleep-time relative BP decline, i.e. BP dipping) and, most importantly, markedly diminished occurrence of major CVD events.

HARMONY Trial suggests that the impact of antihypertensive medications on 24-hour ambulatory blood pressure levels is unaffected by whether medications are taken in the morning or evening. In light of the trial inclusion criteria and demography of participants these findings may be only applicable to white patients with reasonably well-controlled blood pressure levels.

These results may be in part dependent on the predominant use of long-acting formulations of agents. Nevertheless, these findings seem reasonably robust given the trial had 80% power to detect a 3 mm Hg difference in 24-hour systolic blood pressure between randomized groups, high rates of adherence (albeit self-reported) and 92% of participants completing all three 24-hour blood pressure recordings. Furthermore, the lack of impact of morning versus evening dosing was consistent across all types of blood pressure measurements and in all sensitivity analyses.

MAPEC Study prospectively investigated the hypothesis that bedtime chronotherapy with ≥1 hypertension medications exert better BP control and CVD risk reduction than conventional therapy—when all medications are ingested upon-waking. The results document, first, greater

ambulatory BP control in subjects ingesting ≥1 hypertension medications at bedtime than in subjects ingesting all their medications upon awakening.

TIME Trial suggests among patients with hypertension, the timing of blood pressure medications does not affect the incidence of adverse cardiovascular events. Blood pressure tended to be higher in the evening among patients randomized to evening dosing, while blood pressure tended to be higher in the morning among patients randomized to morning dosing. Falls were slightly less frequent in the evening dosing group. There were no safety concerns from evening dosing of antihypertensive therapy. Patients can take antihypertensive medications in the morning or in the evening according to their preference.

BedMed-Frail Trial suggests Whether the timing of administration of blood pressure (BP)-lowering medications affects cardiovascular outcomes was uncertain due to conflicting findings from previous trials.

- In the BedMed and BedMed-Frail trials, conducted in a general primary-care population and in nursing-home residents, there was no difference in major cardiovascular events or safety between evening or morning dose administration.
- Patients should take their BP medication when they are least likely to forget.
- In two trials, one in frail elderly patients, evening administration of blood pressure (BP)-lowering medications had no clinical benefits over morning administration, according to late-breaking research presented in a Hot Line session at ESC Congress 2024.

Conclusion:

Circadian rhythm definitely has an important role to play in the regulation of blood pressure but timing is less important than adherence. Results from BedMed and BedMed-Frail, as well as a meta-analysis, are consistent with what was seen in the TIME trial. The 2024 ESC guidelines for hypertension, emphasize convenience over timing. “Current evidence does not show benefit of diurnal timing of BP-lowering drug administration on major CVD outcomes,” the document notes. “It is important that medication is taken at the most convenient time of day to improve adherence. Patients should also be encouraged to take medications at the same time each day and in a consistent setting, to help ensure adherence.”

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26. Medical Consultation on social media- what you may not know!

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Introduction

Social media consultation is now lawful as per Telemedicine Practice Guidelines of 25th March & 12th May, 2020. It includes consultation via any of the following modes of communication- Video, Audio and Text, and includes the following modes of interaction between the patient/HCW and doctor-

(i) Video / audio / text on phone, computer, etc.
(ii) WhatsApp, Facebook messenger, skype, etc.
(iii) Mobile app
(iv) Email, fax

What are the pre-requisites for consultation on social media?

Under social media consultation, there is a need to identify the doctor as well as the patient (as per the law on Telemedicine) by an appropriate means such as name, age, gender, email i.d., phone number, registered ID, or identification document. Some important points to remember:

1. A minor may be consulted in the presence of an adult.
2. Informed consent is not required when the consultation is initiated by the patient, it is implied. But explicit/informed consent is required when initiated by the doctor/HCW/caregiver (sample below) -

   "Yes, I consent to avail consultation via telemedicine."
3. Telemedicine consultation does not include merely prescribing medicines, but the doctor may advice regarding health education and counseling as well.
4. Prescribing medicines without an appropriate diagnosis/provisional diagnosis will amount to a professional misconduct.

What does telemedicine not include?

Telemedicine consultation does not include-

(a) Surgical or invasive procedures conducted remotely
(b) Hardware & software

(c) Research & evaluation
(d) Consultation outside India

Is there a format for telemedicine consultation?

A prescribed format for telemedicine consultation shall only be used -

(i) RMP's name, qualification, Regn. no., address, contact details (email & phone no.), (ii) Date of consultation, (iii) Name of patient, (iv) Age, (v) Gender, (vi) Height, (vii) Weight, (viii) L.M.P., (ix) Chief complaints, (x) Relevant points from history, (xi) Examination / Lab findings, (xii) Suggested investigations, (xiii) Diagnosis or Provisional diagnosis, (xiv) Rx - name of medicine, drug form, strength, frequency & duration, (xv) Special instructions, (xvi) RMP's signature & stamp.

What are doctors' responsibilities while consulting on social media?

The duties and responsibilities of a doctor in general, and regarding medical ethics, data privacy & confidentiality are same as that under Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations, 2002.

What are the penalties / punishment for misconduct during social media consultation?

The penalties / punishment for indulging in misconduct during practice of telemedicine are same as that under Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations, 2002.

Which type of data is required to be preserved, and for how long by doctors?

Data required to be maintained and preserved by doctors -

(a) Patient records, reports, documents, images, diagnostics data, prescription, logs of telemedicine interaction (e.g. phone logs, email records, chat/text record, video interaction)
(b) BUT NOT entire records of audio / video / chats

Some examples of misconduct regarding telemedicine -

1) Doctors insisting on telemedicine
2) Doctors misusing patient images and data
3) Doctors who use medicines from the restricted list
4) Doctors are not permitted to solicit patients through any advertisements

Can you discontinue telemedicine consultation once commenced or is it mandatory to continue consultation by telemedicine mode?

Yes, you can discontinue. It is doctor's judgment to do so, and is not mandatory to continue it even if the patient insists.

Whose responsibility is it to ensure that genuine doctors (MCI recognized) are only consulting patients?

Doctor, and Technology platform like mobile app, website, etc.

Which medium is legally advisable/safer medium of consultation on social media?

Telemedicine provider platforms like Prxxxx, Medibxxxx, Curexxxx, eSanjxxxxx, etc AND 'asynchronous modes' (wherein one-way communication is possible) like Email, Fax, Audio/Video Recordings, etc. are

legally advisable/safer as compared to 'synchronous modes'. Synchronous modes happen in real time/require your immediate response, while asynchronous modes happen at one's chosen time. Synchronous modes are like Whatsapp, Facebook messenger, Skype, Zoom, Google Meet, Microsoft Teams, etc. **Synchronous modes like Whatsapp, Facebook messenger, Skype, etc. should be avoided.**

Some important case laws and enacted laws under social media consultation

(a) The treating physician kept advising on the phone and came to examine the patient only after 13 hours of admission when the patient had deteriorated and later expired. Patient was awarded a compensation of 10 Lakhs. (**Maya Sharma & Ors Vs Raj Hospital** & Ors, NCDRC, RP 2390/2018, decided on 15Nov2023)

(b) "Law does not give such absolute license to the Youtubers and the social media to spoil the reputation of others". The court awarded 50 Lakhs compensation to the complainant, a charitable organisation. (**Sevabharati, Tamil Nadu Vs Surender**, Madras High Court, CS 60/2021, decided on 06March2024)

(c) Court directed Secretary, Deptt of Home Affairs to direct CERT (Computer Emergency Response Team), Ministry of Electronics & I.T., for urgent removal of defamatory videos and other content from YouTube, WhatsApp and Facebook against the complainant doctor and medical centre- Dr Ambily Chandran, Radiologist and Hi Tech Diagnostics, Kochi. (**Suresh Varghese vs Union of India**, Kerala High Court (Ernakulam), decided on 26Nov2019)

(d) "A person should behave with a sense of responsibility while communicating something to others and cannot justify the same through limited circulation". The court viewed the contents of FIR as the applicant's deliberate and malicious intention to insult the feelings of a group when he posted some objectionable content, as his own WhatsApp status, relating to SC/ST Act. (Bombay High Court rejects application for quashing of FIR under SC/ST Act, 25Jul2023)

(e) Insulting a doctor on social media, video can lead to 3 months in jail or fine of Rupees ten thousand. (**Karnataka medical registration and certain other law (Amendment) Act, 2024**)

(f) Kerala HC declined to quash FIR against a doctor & hospital staff booked for sharing images, videos of woman undergoing surgery to deliver triplets. The crime was registered against the doctors under Section 354(C) (Voyeurism) of IPC, Sections 66(E) (Punishment for violation of Privacy) and 67 (Punishment for publishing or transmitting obscene material in electronic form) of the Information Technology Act. **(Sunil P.P. Vs State of Kerala**, Kerala High Court, CRL MC 4223/2022**)**

(g) "Each forward of objectionable 'forwarded message' cannot be interpreted to create unrest in the society or two groups of people or two races under Section 153A of the Indian Penal Code". A criminal case was registered for the offences punishable under Sections 295-A, 153-A of the IPC and Section 3(v) of the SC and ST (Prevention of Atrocities) Act, 1989. The Court said- "People are required to exercise self-restraint and not forward whatever they receive on social media platforms. Anyway, each forward of such a message cannot be interpreted to create unrest in the

society or two groups of people or two races." (**Dnyaneshwar Rohidas Wakale Vs The State of Maharashtra**, Bombay High Court, Aurangabad, CA 2375/2019).

(h) The Health Department of Tamil Nadu has barred the Chennai-based Rainbow Hospital from all patient care activities for 10 days and fined the hospital with Rs.50,000/- for violating the norms of the Tamil Nadu Clinical Establishments (Registration and Regulation) Act, 2010 by not adhering to the sterility protocols, for allowing a Youtuber inside the operation theatre and permitting him to cut the umbilical cord of his newborn baby and record it. Complaint was filed against the Youtuber and the Gynaecologist in the Tamil Nadu State Medical Council. The video in question violated Section 34(1)&(2) of the NMC Act which clearly stated that anyone who is allowed to practice without being enrolled in the State or National Register may be punished with a maximum jail term of one year, or with fine extending to five lakh rupees or with both.

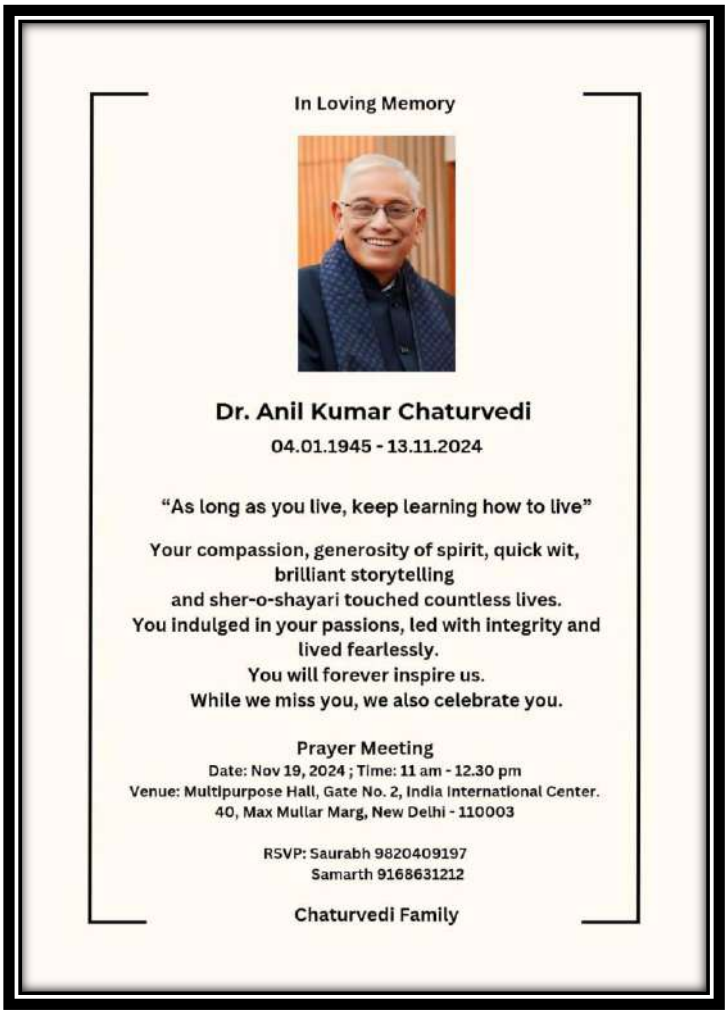
(i) "Recipients of WhatsApp messages are not liable for defamation unless they choose to forward the message". The case in question involved a man who allegedly sent a "defamatory" WhatsApp message about his in-laws. The complainant, who is related to the accused by marriage, claimed the message defamed his family. However, the court ruled that simply receiving a message does not imply intent to defame, and that defamation liability only applies if the recipient chooses to forward or publish the message. The court noted that the law cannot hold a sender liable for defamation if the message is not further shared, as the recipient controls its distribution. The Police was criticised for its misuse of law and wrongful arrest in the matter, and noted that the IO had applied Section 66-A of the Information Technology (IT) Act, which the Supreme Court had declared unconstitutional years earlier. The bench expressed concern that the police arrested the accused under a defunct law, calling the incident an example of "high-handedness" and a disregard for due process. The High Court ordered the I.O. to pay Rs. 2 lakh in compensation to the accused, while the complainant was directed to pay Rs. 50,000. The bench concluded its judgment by quashing the FIR against the accused and emphasized that mechanical orders by Magistrates and misuse of unconstitutional sections by law enforcement must be avoided. (**Mahesh Shivling Tilkari Vs State of Maharashtra**, 3497, decided on 22-10-2024, Bombay High Court, Aurangabad)

27. Obituary

Dr Anil Chaturvedi
(4th Jan 1945- 13th Nov 2024)

East Delhi Physician Association (EDPA) mourns the passing of one of its most esteemed senior member, Dr. Anil Chaturvedi (January 4, 1945 - 13 November , 2024).

Dr. Anil Kumar Chaturvedi was a visionary physician, prolific writer, and esteemed advocate of preventive healthcare. His illustrious career spanned over five decades, during which he specialized in lifestyle diseases and preventive healthcare. A beacon of professional excellence, he served in reputed hospitals across Delhi, tirelessly championing preventive medicine and public health awareness.



An accomplished author, Dr. Chaturvedi penned 10 insightful books and over 1,000 articles addressing topics such as medical ethics, communication skills for physicians, and the lost art of clinical medicine. He was a thought leader who educated both professionals and the public through platforms like All India Radio, BBC London, and Rajya Sabha TV, and delivered impactful talks to various organizations.

His contributions extended beyond India. As the physician to the President of the Republic of Nauru, he played a pivotal role in establishing the nation's Diabetes Control Programme.

His initiatives in India, including coordinating preventive health programs for the Government of Arunachal Pradesh and community groups in Delhi, benefited thousands of patients.

Dr. Chaturvedi was the recipient of numerous prestigious accolades, including the Dr. B.C. Roy National Award for Eminent Person in Literature (2016), the Vayoshreshtha Samman (2016), and multiple awards recognizing his efforts in science communication, Hindi literature, and medical education.

His legacy as a leader in lifestyle medicine, an educator par excellence, and a compassionate physician will continue to inspire generations. Dr. Chaturvedi's dedication to public health, his literary contributions, and his ability to bridge the gap between medical science and society leave an indelible mark on the medical community.

Within EDPA, Dr. Chaturvedi played a pivotal role since its inception in 1999. His EDPA registration number was 10 which means he was one of the very early members to join and shape EDPA as it is today. He used to regularly chair academic sessions with authority and enthusiasm despite his age, making him a beloved fixture at our monthly CMEs. His regular attendance and contributions have inspired EDPA's physicians. He used to address some of us as "partner" which was his trademark and which will be missed by us.

EDPA pays tribute to Dr. Anil Chaturvedi's extraordinary life, marked by his unwavering commitment to healthcare excellence, literary achievements, bridging medicine and art, selfless service to EDPA, fostering growth and knowledge, and Inspiring mentorship to fellow physicians.

Dr. Chaturvedi's legacy will continue to motivate us. We honor his memory and extend our deepest condolences to his family.

EDPA resolves to remember Dr. Chaturvedi's contributions at future CMEs and continue his mission of promoting healthcare awareness

On behalf of EDPA, we offer our heartfelt condolences to Dr. Chaturvedi's family.

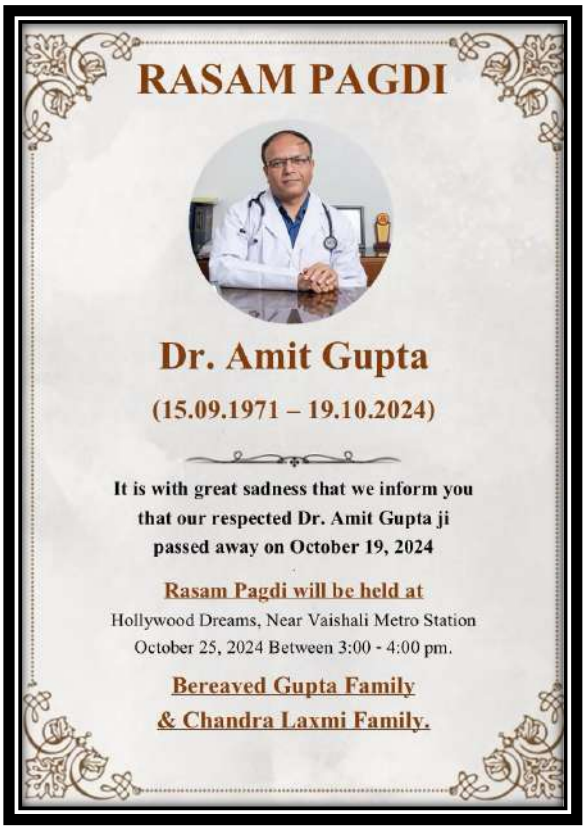
May his soul rest in peace.

From, East Delhi Physician Association

Obituary

Dr. Amit Gupta
(September 15, 1971- October 19, 2024)

EDPA lost its another key member, Dr. Amit Gupta, a distinguished senior consultant physician and Chief Physician at Chandra Laxmi Hospital, East Delhi.



Born in Delhi, Dr. Gupta was an alumnus of the prestigious University College of Medical Sciences. Throughout his illustrious 25-year medical career, he earned tremendous respect and admiration of patients, colleagues, and the medical community.

As a dedicated member of the East Delhi Physician Association (EDPA), Dr. Gupta was a cherished figure, known for his shy nature, great sense of humour, exceptional clinical skills, compassion, and kindness.

His sudden passing leaves a void in the lives of all who knew him. We extend our deepest condolences to his family and pray for their strength during this difficult time.

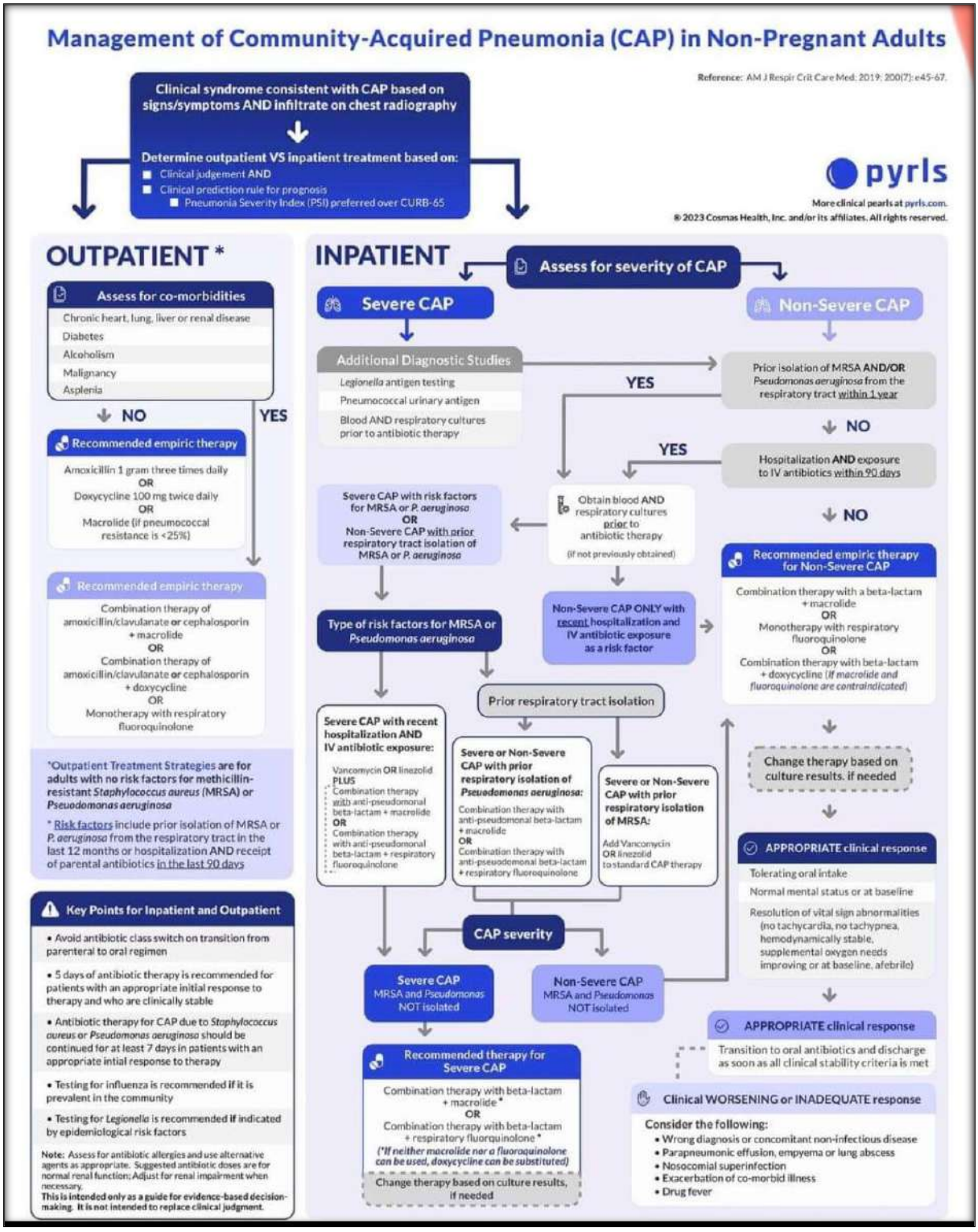
May Dr. Amit Gupta's soul rest in peace, and his hardworking attitude continue to inspire future generations of physicians.

Farewell, dear Dr. Gupta. You will be deeply missed.

East Delhi Physician Association

28. Medical Pics and graphs

Pic Contributed by Dr Dipesh Sood, Consultant Physician



Contributed by Dr Deepesh Sood

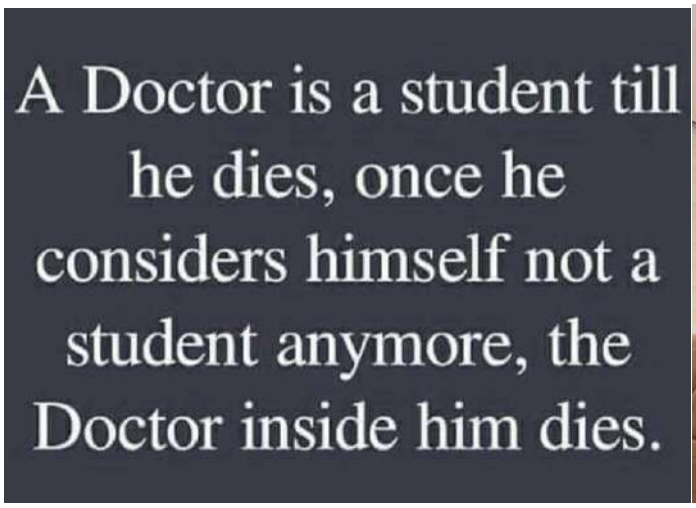
VT criteria (version 1/2024) Citation: Arrhythmia & Electrophysiology Review 2013;2(1):23-9 DOI: https://doi.org/10.15420/aer.2013.2.1.23

RBBB V1 (final deflection positive)	Left ventricle
LBBB V1 (final deflection negative)	Right ventricle or septum
Lead I positive	Septal
Lead I negative	Lateral oder apical
Inferior leads positive	Anterior
Inferior leads negative	Inferior
AV dissociation, capture/fusion beats	VT
Basel Algorithm	Structural heart disease, lead II: begin R wave to 1. peak > 40 ms, lead aVR: begin R wave to 1. peak > 40 ms; 2 or 3 points: VT
Brugada sign	Begin QRS to Nadir S > 100 ms V1-V6
Josephson sign	Notching of the S wave near nadir in V1/V2
Concordance in the precordial leads	Positive or negative
QRS more than 160 ms	
Extreme QRS axis	+ 180 bis +270 degrees; positive aVR, negative I, aVF
Taller left rabbit ear in V1	
LBBB pattern	QS or qR in V6
Vereckei Algorithm	Dominant initial R wave in aVR
Pava Criteria	Lead II: R wave peak time (until first change of polarity) > 50 ms
Wellens (RBBB pattern)	V1: mono- oder biphasic, taller left rabbit ear V6: R/S ratio < 1, QR oder QS oder monophasic R
Kindwall (LBBB pattern)	V1: initial R > 30 ms; nadir of S > 60 ms, notched downstroke V6: any q, QS oder QR

29. FUN & PHILOSOPHY CORNER

Shared by Dr Deepti Gujral

Shared by Dr NP Singh (Nanu)


A Doctor is a student till
he dies, once he
considers himself not a
student anymore, the
Doctor inside him dies.

30. 25 years of Nostalgic journey of EDPA


CME 2000
17th December 2000 New Delhi
Organised by
AST DELHI PHYSICIANS FORUM


COMBINED TO
COMBAT HYPERTENSION
Ramipril
in CHD prevention


organised by: EAST DEL
Sunday, 21st D
OTEL GRAND I
DR. GULAB GUPTA


CME - 2003
EDPA
PHYSICIANS ASSOCIATION
CME - 2003


CME - 2004


CME-2006
Sunday, 17th December, 2006
HOTEL INTERCONTINENTAL


East Delhi Physicians' Association (EDPA)
EDPACON


2016
17th Annual Conference of
East Delhi Physicians' Association


EDPACON
2017
Sunday, 10th December, 2017


8th December 2019


20th Annual Conference of
East Delhi Physicians' Association
EDPACON
8th December 2019
Le MERIDIEN
New Delhi
DR ASHOK KUMAR
DR KAPIL KHANNA
DR S K GUPTA
DR VIJAY ARORA
DR RAJIV GUPTA


EDPA)
20th Annual Con
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EDPA


EDPACON 2022

31. EDPACON2024:

East Delhi Physicians Association Celebrates 25 Glorious Years

The East Delhi Physicians Association (EDPA) is celebrating its 25th Anniversary on December 22, 2024, a momentous occasion that marks a quarter-century of dedication to advancing medical excellence and fostering unity among healthcare professionals.

To commemorate this milestone, EDPA is organizing a mega medical conference at the prestigious Le Meridien Hotel, bringing together renowned national speakers, distinguished guests of honor, and special invitees. This grand event will not only be a platform for knowledge exchange but also a celebration of the remarkable journey of EDPA.

Key Highlights of the Event:

Inspiring Speakers:

The conference will host national speakers of repute, who will share their expertise on cutting-edge topics in medicine and healthcare.

Honoring Past Presidents:

A special segment will be dedicated to honoring all past presidents of EDPA, whose leadership and vision have shaped the association's success.

Lifetime Achievement Award 2024:

The event will recognize an outstanding physician with the Lifetime Achievement Award, celebrating their exceptional contributions to the medical field.

Gala Dinner and Entertainment:

The celebrations will conclude with a grand gala dinner, featuring music, camaraderie, and a chance for all attendees to connect and unwind.

This silver jubilee celebration is not just an event; it is a tribute to the unwavering commitment of EDPA's members and a testament to the association's growth from a small group in 1995 to a thriving community of over 400 doctors in 2024.

Let us come together to honor our legacy, celebrate our achievements, and envision an even brighter future for EDPA.

We look forward to welcoming you to this historic celebration!

EDPA Executive committee


CELEBRATING 25 YEARS
EDPA
Silver Jubilee
25th Annual Conference of
East Delhi Physicians' Association (EDPA)
EDPACON
2024
THEME
EMPOWERING PHYSICIANS WITH EVIDENCE-BASED MEDICINE
SUNDAY
22ND
DECEMBER, 2024
At
Hotel Le Meridien
New Delhi
www.edpadelhi.com

EDPACON 2024

25th Annual Conference
of East Delhi Physicians' Association (EDPA)

Scientific Agenda

Timing: 8:30am to 7:00pm

Time	Topic	Speaker	Chairpersons
EMPOWERING PHYSICIANS WITH EVIDENCE-BASED MEDICINE			
8:00 am-8:30 am	Registration		
8:30 am-9:30 am	Dr AK Jain Memorial Postgraduate Quiz	Quiz Masters: Dr Shubhalaxmi Margekar Dr Shivani Bansal	Judges: Dr Ashok Kumar Dr Piyush Jain Dr Nishesh Jain
9:30 am-9:40 am	Welcome address	Dr Pankaj Choudhary Dr Ashok Grover	
SCIENTIFIC SESSIONS			
9:40 am - 10:30 am	NEUROLOGY SYMPOSIUM Acute Stroke Management During Window Period and Beyond Session Coordinator: Dr Sahil Gupta		
9:40 am - 9:55 pm	Medical Treatment with Thrombolysis	Dr M V Padma Srivastava	Dr Puneet Aggarwal Dr Awadh Pandit Dr B K Gupta Dr Kamakshi Dhamija
9:55 am - 10:10 am	Insights on Medical Thrombectomy in Stroke Management	Dr Vipul Gupta	Dr Puneet Aggarwal Dr Awadh Pandit Dr B K Gupta Dr Kamakshi Dhamija
10:10 am -10:30 am	Panel Discussion: Management of Acute Ischemic Stroke Moderator: Dr B K Gupta	Panelists: Dr M V Padma Srivastava Dr Vipul Gupta Dr Awadh Pandit Dr Puneet Agarwal	
10:30 am - 11:20 am	GASTROENTEROLOGY AND HEPATOLOGY SESSION Session Coordinator: Dr Naresh Aggarwal		
10:30 am - 10:55 am	Fat in the Liver- Friend or Foe?	Dr Anil Arora	Dr Deepak Lahoti Dr N K Govil Dr Amitesh Aggarwal
10:55 am - 11:20 am	Paradigm Changes in Medical Management of Inflammatory Bowel Disease	Dr Vineet Ahuja	Dr Rajeev Bansal Dr Vaishali Bharadwaj Dr S K Gupta

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Time	Topic	Speaker	Chairpersons
11:20 am - 12:00 pm	**INFECTIOUS DISEASES SESSION** Session Coordinators: Dr Anivita Aggarwal Dr Ruby Bansal		
11:20 am - 11:40 am	Post-Exposure Prophylaxis in Clinical Practice-Bites, Cuts, Nicks & Pricks	Dr Vikas Suri	Dr Ruby Bansal Dr Sanjay Mahajan Dr B K Tiwari
11:40 am- 12:00 pm	Panel Discussion-Reducing Infections in Hospitals, Nursing Homes, and Clinics, Preventing AMR	Panelists: Dr Vikas Suri Dr S Anuradha Dr Anupam Singh Dr Sarita Mohapatra	
12:00 pm - 12:30 pm	Inauguration Ceremony Guests of Honour:	Dr Ashok Seth, Dr R K Singal Dr S K Sarin, Dr Vinay Aggarwal Dr Sandeep Guleria, Dr Raka Guleria Dr Dinesh Khullar, Dr Rajiv Parakh	
12:30 pm - 1:00 pm	**SMT BELA DEVI MEMORIAL ORATION**		
	Internal Medicine and Rheumatology- it takes two to tango!	Dr Prof. Rohini Handa	Executive Committee
1:00 pm - 1:45 pm	**LUNCH**		
1:45 pm - 2:05 pm	**MEDICOLEGAL SESSION** Session Coordinator: Dr Gaurav Agarwal		
	Legal issues in Medical Practice, "Current Perspective"	Dr Girish Tyagi	Dr S K Aggarwal Dr Sushil Tyagi Dr V K Gupta
2:05 pm - 3:35 pm	**SYMPOSIUM ON OBESITY & GIP/GLP 1 RA** Session Coordinators: Dr Aniruddh LochanDr Himanshu Sharma		
2:05 pm - 2:20 pm	Adiposopathy and the Medusa Paradox	Dr Vivek Bindal	Dr Rajeev Lochan Dr Saurabh Srivastava Dr R M Chhabra
2:20 pm - 2:35 pm	Tirzepatide: A Novel GIP + GLP1 Analogue	Dr Manoj Chawla	Dr A S Dave Dr Rajiv Gupta Dr Meenakshi Jain
2:35 pm - 2:55 pm	SURMOUNT-ing Obesity with Tirzepatide- SURMOUNT 1 & 4	Dr Supratik Bhattacharya	Dr Naresh Dang Dr Ashok Grover Dr S Chakravorty
2:55 pm - 3:05 pm	Panel Discussion	Panelists: Dr Vivek Bindal Dr Manoj Chawla Dr Supratik Bhattacharya	
3:05 pm - 3:35 pm	Efficacy of DPP4i-A case based approach Moderator: Dr Rakesh Kumar Prasad	Dr Rajeev Chawla	Dr Lalit Dr Navin Atal Dr Rali Bansal

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Time	Topic	Speaker	Chairpersons
3:35 pm – 4:15 pm	CARDIOLOGY SESSION Session Coordinator: Dr Anand Kumar Pandey		
3:35 pm – 3:55 pm	Heart failure management– What after four pillars of GDMTs?	Dr Upendra Kaul	Dr Anil Motta Dr Vijay Arora Dr Mukesh Mehra
3:55 pm – 4:15 pm	Panel Discussion–Advancing heart failure management: Bridging medical therapies with ICDs and CRT-D	Panelists : Dr Vivek Chaturvedi Dr Sandeep Singh Dr Amitabh Yaduvanshi	
4:15 pm – 5:55 pm	DIABETES AND CARDIOMETABOLIC SYMPOSIUM Session Coordinators: Dr Setu Gupta, Dr Sumer Sharma		
4:15 pm – 4:35 pm	Hyperkalemia and the importance of RAASi optimization	Dr Vijay Kumar Sinha	Dr Pankaj Nand Choudhary Dr Anupam Prakash Dr Tushar Gupta
4:35 pm – 4:55 pm	Case based Discussion on HFrEF with LVEF improvement post treatment with ARNI	Dr Vishal Rastogi	Dr Paras Gangwal Dr Amitabh Khanna Dr Vandana Garg
4:55 pm – 5:25 pm	Initiate at Onset: Early intervention for effective control with oral semaglutide	Dr Sanjay Kalra	Dr Prahlad Chawla Dr Ajay Kumar Gupta Dr Arjun Singh
5:25 pm – 5:55 pm	Path Breaking Innovation in Diabetes Therapy –Degludec and IDegAsp	Dr Pankaj Aneja	Dr RPS Makkar Dr Vaibhav Singhal Dr Viresh Mehta
5:55 pm – 7:10 pm	PRIZE DISTRIBUTION, VALEDICTORY CEREMONY		

Postgraduate Poster and Oral Paper Presentation	
Time	Judges
11.00 am – 12.00 pm	Dr Rupali Malik, Dr Pushpa Kumari
12.00 pm – 1.00 pm	Dr Amit Sharma, Dr Rati Singh
2.00 pm – 3.00 pm	Dr Ghanshyam Pangtey, Dr Parimita Barua
3.00 pm – 4.00 pm	Dr Pulin Kumar Gupta, Dr A K Anuragi

Smt. Bela Devi Oration 2024

The Shrimati Bela Devi Memorial Oration was established in 2000 by Dr. Saroj K. Prakash, a senior EDPA member, to honor her late mother. Shrimati Bela Devi, originally from Khurja, moved to Shahdara in the 1920s, a time when the town lacked proper health facilities and education for girls. Despite being minimally educated herself, she championed girls' education, taking the bold step of sending her 10-year-old daughter to Delhi by train for schooling, defying financial and social challenges. In 1942, the family moved to Delhi amidst the hardships of World War II and the independence movement. Undeterred, Bela Devi ensured all her seven daughters and one son received equal education, even sending her daughters overseas for higher studies. A visionary far ahead of her time, she exemplified the values of gender equality and the transformative power of education.

This year's Bela Devi Oration lecture will be delivered by Dr Rohini Handa.

Dr. (Prof.) Rohini Handa, an eminent rheumatologist with over 29 years of experience, has made exceptional contributions to the field of medicine. A former Professor of Medicine at AIIMS, New Delhi, he currently practices at Indraprastha Apollo Hospitals, New Delhi, where he continues to deliver world-class care in rheumatology. Dr. Handa completed his MBBS in 1982 and MD in 1986, earning numerous prestigious fellowships, including Fellow of the Royal College of Physicians (Glasgow), Fellow of the American College of Rheumatology, Fellow of the National Academy of Medical Sciences (India), and Fellow of the Indian College of Physicians, among others. His illustrious career has been adorned with several accolades, such as the M.N. Sen Oration Award and Shakuntla Amir Chand Prize by the Indian Council of Medical Research, the Dr. G.B. Jain Oration and Dr. Sukumar Mukherjee Honor Lecture by the Indian Academy of Clinical Medicine, and the J.C. Patel and B.C. Mehta Prize by the Association of Physicians of India.

Dr. Handa has held numerous leadership positions, including Dean Elect of the Indian College of Physicians, President of APLAR (Asia Pacific League of Associations for Rheumatology) from 2010 to 2012, Chair of ILAR (International League of Associations for Rheumatology) in 2012, and President of the Indian Rheumatology Association from 2009 to 2011. He has also been an influential voice in the Delhi Rheumatology Association, serving as its President from 2010 to 2012. An esteemed member of various editorial boards, Dr. Handa has contributed to renowned journals like Rheumatology Oxford, Current Rheumatology Reports, and Clinical Rheumatology. He has authored or co-authored over 335 papers, book chapters, and review articles in national and international journals, furthering the understanding and treatment of rheumatological conditions.

As a founding fellow and life member of multiple prestigious societies, including the Indian Rheumatology Association, Delhi Rheumatology Association, and the Geriatric Society of India, Dr. Handa remains dedicated to advancing medical science and mentoring future generations. His unwavering commitment and extraordinary achievements have established him as a leading figure in the field of rheumatology, inspiring colleagues and students alike.

The EDPACON 2024 conference will conclude with a grand gala dinner, filled with music, camaraderie, and a celebration of togetherness that embodies the spirit of the EDPA community. It promises to be a memorable evening to cherish bonds and share achievements.