AFPI
Academy of Family Physicians of India

KARNATAKA

## AFPI KARNATAKA QUARTERLY NEWSLETTER

# President's Letter

Dear friends,

For this issue, I thought I would write on the critical role Family Medicine physicians play along the continuum of care.

Ultimately, what do patients and families expect from the health care system? As the theme of our Karnataka State Conference in Belagavi emphasized, society expects the health care system to deliver RRR - the right care at the right time for the right price. In other words,people expect trustworthy, competent, cost effective care that is timely.

Sometimes the discourse around primary care breaks down into a hierarchy (primary care in the community, secondary care at smaller hospitals, and tertiary care at highly specialised referral centres) or a dichotomy - primary care outside the hospital vs hospital based care.

Actually, to ensure the people receive RRR,ensuring the design principles of FamilyMedicine i.e. Continuous care, ComprehensiveCare, Contextual care, Care at first contact, andCoordinated Care, is critical.

This is only possible when the role and influence of the family physician extend across the care Continuum from the ICU, throughInpatient Care, the Emergency Department, theOPD of a hospital, the clinic in the community,and the patients' home.

As FPs, it behooves us to exert our leadership and claim our due role across the care continuum. Not doing so automatically results in the fragmentation we lament about with its multitude of ill effects in terms of unnecessary tests, procedures, medications, polypharmacy, lack of coordination, longer hospitalization, poorer outcomes, and catastrophic costs.

Best wishes

**Dr. Ramakrishna Prasad**
**President**
**AFPI Karnataka**

AFPI KARNATAKA
Newsletter Volume 7/Issue 1

## Editorial Note

## Lobbying and networking

There are three classes of people. One class dreams but does not act. The other class acts without dreaming. The first one as one can see, will remain so and nothing happens. This class is also wont to complain bitterly why and how their dreams lie shattered. The other who acts is like rudderless vehicle with no aim and this can-do harm as they have no goal to achieve. The perfect examples are our docile bureaucrats who act on the directions of our political leaders whose dreams are often not directed towards nation building, but towards short sighted personal or political gains.

The last but a very important class is that of a class of people who dream and act. I see this happening in the present political financial scenario. What about the national primary health scene? Despite the best efforts of some of us [ Raman Kumar and co], lot remains to be done to get the specialty of primary care the preeminence in health care delivery that it richly deserves. Sensitizing our politicians as to how and why of this is of paramount importance. AFPI members in general, and office bearers in particular should start actively lobbying these functionaries at all levels, starting from the ward level up to the state and central government level.

Developing a network with the bureaucrats and politicians, therefore is of utmost importance. Right now, organ specialists of curative medicine, hold the sway and their influence and clout is much more than that of generalists like family doctors. So is true of large private players in the field of health, mostly curative health.

Thus, it is an unavoidable and very important duty that we family physicians actively engage and impress upon the powers [read politicians and bureaucrats], the need for change and the ways to do it.

Coming to another aspect of developing and maintaining contacts [networking ]. We are social animals and depend on each other for our mental and physical wellbeing. It may be relatives, friends and even strangers whom we are interacting with, all are important in one way or the other, we cannot live in isolation and be happy. More and more reports are coming from the professional and lay media as to the importance of social interaction in preventing early death.

More than any profession social interaction and networking is important to us general practitioners. This can be between us, our patients, and other doctors belonging to other specialties. This will help our patients directly and us indirectly. How one can develop long lasting such relationships? Let me give you an example. You need a second opinion and you think Dr x is the right person. You tell the patient to go and see that doctor. You do not give a reference letter describing the reason why you are sending the patient, your tentative diagnosis and the treatment so far given and a request for the specialist to get back to you and the like. You have also have not told the patient to get back to you. You have successfully terminated the social and professional interaction between you and the patient and prevented the other doctor getting back to you. In all possibility you have lost that patient.

The right way would have been to give a note with all the particulars and ask the patient to come back to you after seeing the other doctor and telephone the doctor and tell him that so and so patient is going to see him and request him to call after seeing the patient. With this you will establish a 3-way relationship. Over years your patient will come to know you and so will be the doctor and vice versa and a useful relationship is built up. This may last or may not is a different matter. Occasionally a physical meeting with the specialist doctor or your own FP colleague will further strengthen this networking.

This relationship based on mutual interest and respect will help us as well as our patients and the other doctor whose help you have sought.

**Dr B C Rao**

# AFPI-NEWS

## Celebrating 4 Months of Continuous Learning and Collaboration

Greetings from AFPI Karnataka! We are thrilled to share the latest updates on our Continuing Medical Education (CME) initiatives, marking a successful journey of collaborative learning over the past four months. Our focus has been on providing highly relevant sessions tailored for general practitioners, fostering interdisciplinary learning, engagement in primary care, and creating networking opportunities for medical professionals across Karnataka.

**Recent CME Highlights:**

**October Session: Infectious Disease Management in Various Conditions**

In collaboration with RXDX Samanvay Clinic, AFPI organized a compelling CME session on infectious disease management in October. The session delved into crucial topics, including the importance of adult vaccination in diabetes and other chronic diseases, combating infections in rheumatology, oral infections in diabetes, dermatological infections and their management, the significance of pediatric vaccination, GI infections in children, and their management, as well as URTI and LRTI in children. The CME received positive feedback from delegates, affirming its value in enhancing knowledge and skills.

**November Workshop: AI Unmasked - Harnessing the Future of Medicine**

AFPI, in association with Bangalore Baptist Hospital, conducted a workshop in November titled "AI UNMASKED - How Doctors Can Harness the Future of Medicine." This insightful workshop empowered participants to seamlessly integrate AI, with a special focus on ChatGPT, into their clinical practice and autonomous learning endeavors. The session covered essential aspects such as prompt crafting, diagnostic decision-making, investigation selection, pharmacological treatment guidance, non-pharmacological intervention recommendations, and referral letter composition. Additionally, participants learned to develop patient education materials with the assistance of AI/ChatGPT. The workshop provided valuable insights into the evolving landscape of healthcare technology.

As we reflect on these enriching experiences, AFPI Karnataka remains committed to advancing medical education, promoting collaboration, and fostering continuous learning. Stay tuned for more engaging initiatives in the upcoming quarters!

**Warm regards,**
**Dr Shalini Chandran**
**drshalinichandan@gmail.com**

## Enterprise and Risk-Taking in Family Practice : Through a personal Journey

**Introduction:**

Family practice, often considered the backbone of healthcare, plays a pivotal role in ensuring the well-being of individuals and communities. In the dynamic landscape of healthcare, the role of family physicians has evolved beyond the traditional confines of clinics and hospitals. The field requires a unique blend of enterprise and risk-taking while navigating the complexities of patient care, evolving medical landscapes, and the challenges posed by the dynamic nature of the healthcare industry. Embarking on a journey from a thriving career in the armed forces to establishing a private family practice in the bustling city of Bangalore was not just a career move for me; it was a profound personal transformation. In this reflection on my unique journey, I aim to shed light on the intricate dance between enterprise and risk-taking in the field of family medicine, a field that I now call Home.

**The Decision to Take the Leap: The Entrepreneurial Spirit in Family Practice**

Leaving the structured environment of the armed forces to embrace the uncertainties of private practice was not a decision made lightly. It involved a thorough evaluation of my skills, passion for patient care, and a vision for a more personalized approach to healthcare. The shift from a salaried position to the entrepreneurial venture of running a private practice brought with it a myriad of challenges and opportunities. Unlike other vocations in medical profession, being a family physician meant not just treating patients but also managing staff, finances, and adopting innovative technologies to run a practice as a profitable business.

**Calculated Risk in Enterprise:**

The cornerstone of any successful enterprise lies in the ability to take calculated risks. In the context of family practice, this translates to understanding the unique needs of the community, identifying gaps in healthcare services, and envisioning innovative solutions. My decision to establish a private practice in the suburb of a metro city was rooted in a comprehensive market analysis that revealed a growing demand for personalized, patient-centric healthcare services. As family practitioners, we are accustomed to making critical decisions with incomplete information. Diagnosing complex conditions and developing treatment plans require a delicate balance between potential benefits and inherent risks. This ability to make informed decisions in the face of uncertainty is not just a skill; it's a hallmark of a successful family practitioner.

**Financial Considerations and Sustainability:**

The financial aspect of running a private practice cannot be overlooked. The initial investment in setting up the clinic, acquiring equipment, and hiring staff requires a judicious approach. Diversifying revenue streams, optimizing operational efficiency, and maintaining a balance between quality care and financial sustainability are critical elements in mitigating the financial risks associated with family practice entrepreneurship. All I can say at this juncture is that setting up one's own medical practice doesn't always necessitate a massive capital investment, and there are ways to navigate the financial landscape judiciously.

**Building a Patient-Centric Practice:**

One of the primary risks involved in family practice entrepreneurship is the need to differentiate oneself and standing out in a saturated market. Why patients choose one doctor over the other needs a careful analysis. By focusing on a patient-centric approach, I aimed to establish a practice that went beyond the conventional transactional nature of healthcare. Building trust and rapport with patients fostering a compassionate and communicative doctor-patient relationship was my primary focus. Staying connected with patients during difficult times like COVID

pandemic has immensely contributed to the sustainability and growth of my practice.

**Adapting to Technological Advancements:**

Staying current with technological advancements was a significant challenge. Embracing innovation became not only essential for improving patient outcomes but also for the very survival of the practice. Electronic health records, telemedicine, and other digital tools transformed the way I delivered care. By investing in and adapting to these technologies, practitioners can streamline processes, enhance communication, and provide more efficient and patient-centered services.

**Building Trust in the Community:**

Establishing trust within the community is a gradual process that requires consistent effort and a genuine commitment to patient well-being. By actively participating in community outreach programs, collaborating with local organizations, and maintaining transparent communication, I aim to foster a sense of trust and credibility, essential for the long-term success of the practice.

**Navigating Healthcare Policies and Regulations:**

The ever-evolving landscape of healthcare policies and regulations presents another challenge for family practitioners. Staying compliant with changing laws while maintaining a focus on patient care requires a nuanced approach. Navigating insurance requirements, reimbursement structures, and government mandates demands a level of adaptability and resilience that is essential for success in family practice.

**Conclusion:**

The journey from a military career to family practice entrepreneurship in Bangalore has been a rewarding experience, filled with challenges and triumphs. Navigating the delicate balance between enterprise and risk-taking in family medicine required a holistic approach, encompassing market analysis, technological integration, financial prudence, and an unwavering commitment to patient care. In the era of healthcare corporatization driving up costs, family physicians turned entrepreneurs become champions of accessible, compassionate care. Our personalized approach not only shapes the future of healthcare but provides a crucial alternative to the impersonal systems. As family physicians continue to evolve as entrepreneurs, they not only play a pivotal role in shaping the future of healthcare delivery but also offer a personalized and compassionate alternative in the ever-changing landscape of medicine.

**Col(Dr) Mohan Kubendra**

**mohankubendra@gmail.com**

# Clinical inquiry

## What is the evidence-based recommendation for treatment of post viral cough?

### Evidence based answer:

There are many pathogenic factors that may contribute to cause of post infectious cough like post viral airway inflammation leading to bronchial hyper-responsiveness, mucus hyper-secretion and impaired mucociliary clearance, UACS, asthma, GERD, and the like. Judge which factors are most likely to be provoking cough before considering therapy. (Expert opinion)

However, most Post infectious cough usually resolves on its own. Data for evidence of benefit from bronchodilators, ICS, Ipratropium bromide is limited.

Bronchodilators: Some patients with post viral cough without Upper airway cough syndromes like PND have transient airway hyper-reactivity that is associated with a positive methacholine challenge test in research studies. Albuterol may be of benefit to such patients, although data is limited. *

In patients with post viral cough who have no evidence of airway hyper-reactivity, inhaled ipratropium has been reported to produce improvement in the cough **

### Discussion:

#### Definition

Coughs that persist after a common cold or other upper respiratory infection are called post-infectious or post-viral coughs. They can linger for three to eight weeks after a viral infection.

#### Theories about what causes it:

- Postnasal drip secondary to persistent rhino sinus inflammation
- Inflammation of airways: Direct effect of the viral infection to increase bronchial reactivity
- Increased cough receptor sensitivity
- When postinfectious cough emanates from the lower airway, this is often associated with the accumulation of an excessive amount of mucus hypersecretion
- GERD because of vigorous coughing

#### Evidence Summary

ACCP EB clinical practice guidelines for post infectious cough are based on data using PubMed search for “cough” “post infectious cough” “post viral cough” “pertussis” and “whooping cough”. ACCP recommends initial treatment based on clinical assessment of cause of cough like Postnasal drip, airway hypersensitivity, hypersecretion.

Bronchodilators versus placebo: One RCT6 of 92 patients (cough duration 3 to 4 weeks) using a combination of nebulized salbutamol and ipratropium found the proportion with ongoing cough at day 10 was 37% versus 69% placebo (number needed to treat=3). There was no difference at day 20 (both >80% resolved).

- Limitations: Studies were small, used nonvalidated cough scores, and recorded multiple outcomes.

In a systematic review and meta-analyses of randomized clinical trials published in British journal of General practice, six eligible RCTs including 724 patients were identified. These assessed montelukast, salbutamol plus ipratropium bromide, gelatine, fluticasone propionate, budesonide, and nociception opioid 1 receptor agonist and codeine. Five studies reported effects on various cough severity scores at various timepoints. No treatment option was

associated with a clear benefit on cough recovery or other patient-relevant outcomes in any of the studies or in meta-analyses for cough outcomes at 14 days and 28 days. Reported adverse events were rather mild and reported for 14% of patients across all treatments.

**Conclusion**

Evidence on treatment options for subacute cough is weak. There is no treatment showing clear patient-relevant benefits in clinical trials.

In a study published in CHEST, among 14 such patients in one report, 12 had clinical improvement with administration of 320 mcg of inhaled ipratropium, and of these, five had complete resolution of cough)

To summarize, most post infectious cough gets better on its own. ACCP clinical practice guidelines discuss treatment based on clinical assessment for cause of cough as discussed above. Options for treatment may include decongestants, bronchodilators, ipratropium inhalation. It is important in a subacute cough to distinguish between Post infectious cough and other entities that cause subacute cough like cough variant asthma, pertussis and treat those appropriately including use of antibiotics for pertussis. But routine use of antibiotics is not beneficial in subacute cough not due to bacterial infections.

**References:**

*Chronic cough due to asthma: ACCP evidence-based clinical practice guidelines.

Chest. 2006;129(1 Suppl):75S.).

** Postinfectious cough: ACCP evidence-based clinical practice guidelines.

Braman SS Chest. 2006;129(1 Suppl):138S

British journal of General Practice: Treatments for subacute cough in primary care: systematic review and meta-analyses of randomized clinical trials

Canadian Family Physician-Tools for practice

**Dr Preeti Aski**

**sonypreeti@gmail.com**

# Case Report

## Myocardial Bridge

Mr P a 78 years old well controlled diabetic and hypertensive came with complaints of breathlessness on excretion and tightness in the chest. His resting ECG showed minimal changes in chest leads. A cardiology referral resulted in doing Echo and Angiogram. The report came as presence of Myocardial bridge in the middle portion of anterior descending coronary. Advised medical management.

**Discussion**

Normally Coronary arteries lie in the sulci on the surface of the heart. When one or more arteries, in varying length lie inside the musculature, the overlying tissue is called the myocardial bridge. This anomaly is present since birth and is estimated as high as 25% of the population going by the autopsy studies. Earlier this was thought to be benign but with advanced imaging studies and varying symptoms at presentation it is now not considered as benign as it was thought and often need either pharmacological or surgical intervention.

During systole there is compression of the heart muscle which squeezes the heart muscle which in turn compresses the buried segment of the artery, narrowing the lumen thus impeding the flow. In diastole the heart muscle relaxes quicker than the arterial wall thus to some extent the lumen remains narrow. Depending on where this segment lies and the length, the symptoms vary. And if it is some small vessel or where it is very short there may be no symptoms at all. Where as if it is present in anterior descending artery [often], the symptoms can be severe. When it is presented in the young without any other known predisposing cause like family history, high lipid levels and the like, one must exclude myocardial bridging as a likely cause as routine testing like ECG may or may not reveal any abnormality. High degree of suspicion especially when a young and otherwise fit person presents with symptoms will help in the diagnosis and treatment. For further information as to the classification, management protocol, please refer to the link given below

Journal of the American College of Cardiology

https://www.jacc.org › doi › j.jacc.2021.09.8

**Dr B C Rao**

**Badakere.rao@gmail.com**

## Infective endocarditis in elderly – a case series

**Background**

Infective endocarditis (IE) is a rare but severe disease with high mortality and morbidity rates despite significant advances. Although predominant in younger population; prevalence of IE has increased among elderly population in recent years. Incidence of IE is especially higher in patients above 70 years of age. Estimated annual incidence of IE is 3 to 10 cases per 1,00,000, with wide regional variations. The wide variabilities in clinical presentation and difficulties in treatment decision making poses a significant challenge in management of elderly population with IE.

With this case series we aim to describe the clinical profile of IE in elderly and to understand the therapeutic challenges in elderly with IE.

| | CASE 1 | CASE 2 |
|---|---|---|
| History | 68-year-old female -<br>High grade fever, arthralgia, generalized fatigue<br>,significant weight loss x 4 months<br>Slow speech and response x 2 days | A 69-year-old female –<br>High grade fever ,headache and jaw pain x 3 months |
| Complications | Acute non hemorrhagic infarct | Nil |
| Predisposing factors | Nil | K/c/o HTN x 3 years<br>H/o recent tooth extraction |
| Examination | Febrile, Pallor(+)<br>A pansystolic murmur Splenomegaly | Febrile, Pallor (+)<br>A pansystolic murmur Splenomegaly |

| | | |
|---|---|---|
| Investigation | Anemia, Blood cultures: Streptococcus sanguinis 2D-Echo: Moderate-severe mitral regurgitation with a 14 x 5 mm vegetation on the posterior mitral leaflet | Anemia,<br>Blood cultures : no growth<br>2D Echo: severe mitral regurgitation with vegetations of 5 x 9mm on anterior mitral leaflet |
| Treatment | IV antibiotics (Ceftriaxone and Gentamicin) for 6 weeks+ | IV antibiotics (Ceftriaxone and Gentamicin) for 6 weeks |
| Challenges | Decision making on surgical intervention | Getting IV access<br>Impaired renal parameters<br>Continuous monitoring |

**Review**

The causative organisms, clinical presentation, risk factors of IE are all different in elderly population with respect to the general population. In the second case scenario, patient had a predisposing factor for occurrence for IE, whereas in the first case scenario, patient was devoid of any predisposing factors. This emphasizes on the fact of acquiring more knowledge and need for further studies to understand more about the possibility of occurrence of the disease even in absence of risk factors. This being an unresolved problem along with challenges like vague presentations and older age with neglected symptoms itself often results in delayed diagnosis and treatment of IE which in effect results in poor outcomes.

No specific treatment guidelines are currently available for IE in elderly. This poses multiple challenges in management of the same. One being the choice of opting between medical management vs surgical management. Studies have shown that there is an independent association of geriatric parameters like age, comorbidities, function, cognition, nutrition with treatment outcomes. Hence, a comprehensive geriatric assessment would greatly help in decision making regarding medical /surgical management.

A lot of studies show that undergoing surgery in elderly population with IE even when indicated (Case 1) has much greater risks than when done in younger population. However, a few trials have shown to bring better outcomes from surgery for patients with IE, provided, patients have normal blood parameters.

Medical management is the most widely used and recommended choice of treatment for IE in elderly. This includes IV Antibiotics for prolonged duration which results in prolonged hospital stay.This itself poses a challenge in elderly patients as this can result in drug related toxicity, hospital associated infections and even worsening of frailty among elderly especially due to reduced activity, mobility and malnutrition while being in hospital for prolonged period.

| | GENERAL POPULATION | ELDERLY POPULATION |
|---|---|---|
| Fever | High grade fever | Low grade fever |
| Malaise | Less common | More common |
| Anorexia | Less common | More common |
| Weight loss | Less common | More common |
| Immune mediated phenomenon | More common | Less common |
| Sex | M > F | F > M |
| Risk factors | IV drug use Community acquired infection | Comorbidities (Cardiac )/Nosocomial infections/Dental procedures/Prosthetic valves |
| Most common causative agent | Staphylococcus aureus > Streptococcus | Enterococcus |
| Complications | Less | More |
| Ease of treatment | Easier (Surgery > Medical) | Difficult |

**Summary**

- IE is a rare, yet severe disease with fatal outcomes
- They can come with variable clinical presentations especially among elderly.
- Diagnostic clinical triad – Pallor, murmur, splenomegaly — which helps in quick OPD assessment.
- Comprehensive geriatric assessment helps in making optimal management decisions (Medical Vs Surgical)
- More studies are to be done on age specific management and age specific guidelines are to be established to improve compliance,reduce side effects, bring about better outcomes, and thereby improve quality of life among elderly population with IE.

**Namiya Jose[1], Hemavati Dasappa[2], Sanjiv Lewin[3], G D Ravindrran[4]**

**[1]Junior Resident, [2]Assistant Professor, [3]Professor, [4]Professor, Department of Family medicine, St Johns Medical College & Research Institute, Bengaluru**

## A case of Infectious Mononucleosis

A 15-year-old girl presented with low grade fever, weakness and back pain since a week. She also had nausea and yellowish discoloration of the conjunctiva and was passing dark yellow urine in the last two days. Nothing significant in the past history . No known drug allergies.

Clinically vitals were stable. Throat was congested, chest and abdomen evaluation were normal. A presumptive diagnosis of Viral Hepatitis was made. She was administered a pint of normal saline with multivitamins. Routine blood tests were ordered, CBC, LFT, KFT and HAV, HEV were done. Dengue and typhoid tests were negative. Labs showed high WBC count 11,350 cells /cmm, high lymphocyte count 68.3%, direct bilirubin was high at 4.1 mg /dl, indirect bilirubin was at 0.69 mg /dl, AST 229 U/L and

ALT 290U/l . Rest of the laboratory tests came negative. USG abdomen and pelvis showed coarse hepatic echotexture and mild splenomegaly. Subsequently in the evening , her throat pain became very severe and cervical lymph nodes were palpable and a decision was reached to shift her to hospital in view of symptoms and altered liver function.

At the hospital a diagnosis of infectious mononucleosis was made and patient was administered IV acetyl cysteine infusion to bring down the high liver enzymes. She was given symptomatic treatment. Epstein Barr Virus antibody viral capsid antigen IGM turned out to be positive and the patient was discharged after two days as her condition was stable.

**Daycare treatment at the clinic.**

Since she continued to have severe throat pain , she was shown to an ENT specialist who diagnosed the case as acute membranous tonsillitis. WBC count had increased to 19,000 cells/cmm, lymphocytes continued to be high 68%, CRP was 11mg/dl. It was decided to treat her with injectable antibiotics in view of the high WBC counts and thick membrane on both tonsils. She was having excruciating throat pain and was unable to even swallow water. She was administered ceftriaxone 1gm twice a day and amikacin 500 mg twice a day x 3 days. She was treated with paracetamol and voveran for relief from throat pain. Despite medications , patient still had extreme discomfort from throat pain. She was unable to sleep in the night due to pain. At this point, she was given one dose of dexamethasone 4 mg intramuscularly. With this, the pain came down. Over the course of next 3 days , symptoms reduced and she was switched to tab Ceftum 500 mg twice a day x 4 days after food. Throat swab returned no growth. Repeat CBC and LFT done after 10 days had returned to normal limits.

Probable source of infection : Used friend's lip balm.

Discussion : I had missed the diagnosis at the first instance due to the high liver enzymes. Infectious mononucleosis occurs in mainly adolescents and young adult groups. The patient presented with fever , throat pain, fatigue and associated cervical lymphadenopathy, all classical symptoms of the disease. Rash can also be seen which can be aggravated or can occur if Amoxycillin is administered. This is an important aspect which needs to be considered in practice. The high WBC count ,the high Lymphocyte count , elevated aminotransferases and EBV antibodies are tests which would help to clinch diagnosis. Additional tests include a throat swab to rule out streptococcal infection, which was done in this case and turned out to be negative. Infectious Mononucleosis and bacterial tonsillitis are a rare mix. Whether the tonsillitis was a part of infectious mononucleosis or tonsillitis perse was difficult to gauge and the ENT specialist could not ascertain the cause too. Most EBV infections require only symptomatic treatment. However, corticosteroids may be used if airway is compromised. We used a dose of steroids to relieve the pain. Though symptoms may persist for a couple of weeks the prognosis is generally good for most patients, fatigue may persist in 10% of individuals . In our group practice over the past 15 years, though we have seen multiple suspected cases of infectious mononucleosis, the monospot and EB virus tests turned out to be negative. This could be attributed to Infectious mononucleosis being caused by other viruses. This was the first such case seen by our group and hence we decided to present it.

**Dr C M A Belliappa**
**Belliappa.cma@rxdx.in**

# What is new?

The field of family medicine is constantly evolving, making it challenging for the interprofessional healthcare team to stay up to date with recent developments. This article covers key advancements in the field that may have important implications for clinical practice.

## This symptom signals UTI in 83% of cases

A bacterial infection of the bladder and its related structures is known as a urinary tract infection (UTI). When it is uncomplicated, it may be referred to as a "lower" UTI or cystitis.[1] The infection can be caused by various pathogens, with the most common being gram-negative bacteria such as Escherichia coli.[2] Women are at greater risk of developing a UTI compared with men, because of the shorter distance between the bladder and external part of the body. While men may suffer from UTIs less frequently than women, the infection tends to be more complicated.[3]

**Topline:**

Dyspareunia (painful sexual intercourse) is a major indicator of urinary tract infections, being present in 83% of cases. The symptom is especially accurate at identifying UTIs in non-menopausal women, researchers have found.[4]

**Methodology:**

Dyspareunia is a common symptom of UTIs, especially in premenopausal women, but is rarely inquired about during patient evaluations, according to researchers from Florida Atlantic University.

In 2010, the researchers found that among 3000 of their female Latinx patients ages 17 to 72 years in South Florida, 80% of those with UTIs reported experiencing pain during sexual intercourse.

Since then, they have studied an additional 2500 patients from the same population.

**Take away:**

- Among all 5500 patients, 83% of those who had UTIs experienced dyspareunia.
- 80% of women of reproductive age with dyspareunia had an undiagnosed UTI.
- During the perimenopausal and postmenopausal years, dyspareunia was more often associated with genitourinary syndrome than UTIs.
- 94% of women with UTI-associated dyspareunia responded positively to antibiotics.

**In Practice:**

"We have found that this symptom is extremely important as part of the symptomatology of UTI [and is] frequently found along with the classical symptoms," the researchers reported. "Why has something so clear, so frequently present, never been described? The answer is simple: Physicians and patients do not talk about sex, despite dyspareunia being more a clinical symptom than a sexual one. Medical schools and residency programs in all areas, especially in obstetrics and gynecology, urology, and psychiatry, have been neglecting the education of physicians-in-training in this important aspect of human health. In conclusion, this is [proof] of how medicine has sometimes been influenced by religion, culture, and social norms far away from science."

**Source:**

The data were presented at the 2023 Menopause Meeting of the North American Menopause Society. The study was led by Alberto Dominguez-Bali, MD, from Florida Atlantic University, Boca Raton, Florida.[4]

**Limitations:**

The study authors report no limitations.

## Does an elevated TSH value always require therapy?

Hypothyroidism is a common endocrine disorder, estimated to impact 10% of the world's population.[5] It is characterized by a deficiency in thyroid hormone and may be caused by a severe deficiency in iodine or autoimmunity in iodine-saturated areas (more frequent). Symptoms of hypothyroidism are often nonspecific, affecting multiple organ systems; most commonly, patients may experience an intolerance to cold climates, fatigue, and constipation.[6] The aim of treatment is to restore thyroid hormone levels using medication.[7] The mainstay of treatment is levothyroxine,[6] a synthetic version of the hormone thyroxine (ie, the thyroid hormone, also known as T4).[8]

Indeed, thyroxine and L-thyroxine are 2 of the 10 most frequently prescribed medicinal products. "One large health insurance company ranks thyroid hormone at fourth place in the list of most-sold medications in the United States. It is possibly the second most prescribed preparation," said Joachim Feldkamp, MD, PhD, director of the University Clinic for General Internal Medicine, Endocrinology, Diabetology, and Infectious Diseases at Central Hospital, Bielefeld, Germany, at the online press conference for the German Society of Endocrinology's hormone week.

The preparation is prescribed when the thyroid gland produces too little thyroid hormone. The messenger substance thyroid-stimulating hormone (TSH) is used as a screening value to assess thyroid function. An increase in TSH can indicate that too little thyroid hormone is being produced.[9]

"But this does not mean that an underactive thyroid gland is hiding behind every elevated TSH value," said Feldkamp. Normally, the TSH value lies between 0.3 and 4.2 mU/L. "Hypothyroidism, as it's known, is formally present if the TSH value lies above the upper limit of 4.2 mU/L," said Feldkamp.

### Check Again

However, not every elevated TSH value needs to be treated immediately. "From large-scale investigations, we know that TSH values are subject to fluctuations," said Feldkamp. Individual measurements must therefore be taken with a grain of salt and almost never justify a therapeutic decision. Therefore, a slightly elevated TSH value should be checked again 2 to 6 months later, and the patient should be asked if they are experiencing any symptoms.[10] "In 50% to 60% of cases, the TSH value normalized at the second checkup without requiring any treatment," Feldkamp explained.

The TSH value could be elevated for several reasons:

Fluctuations depending on the time of day.[11] At night and early in the morning, the TSH value is much higher than in the afternoon. An acute lack of sleep can lead to higher TSH values in the morning.

Fluctuations depending on the time of year. In winter, TSH values are slightly higher than in the summer owing to adaptation to cooler temperatures. Researchers in the Arctic, for example, have significantly higher TSH values than people who live in warmer regions.[12,13]

Age-dependent differences. Children and adolescents have higher TSH values than adults do. The TSH values of adolescents cannot be based on those of adults because this would lead to incorrect treatment. In addition, TSH values increase with age, and slightly elevated values are initially no cause for treatment in people aged 70 to 80 years.[14] Caution is advised during treatment, because overtreatment can lead to cardiac arrhythmias and a decrease in bone density.

Sex-specific differences. The TSH values of women are generally a little higher than those in men.[14]

Obesity. In obesity, TSH increases and often exceeds the normal values usually recorded in persons of normal weight. The elevated values do not reflect a state of hypofunction, but rather the body's adjustment mechanism. If these

patients lose weight, the TSH values will drop spontaneously. Slightly elevated TSH values in obese people should not be treated with thyroid hormones.[15]

The nutritional supplement biotin (vitamin H or vitamin B7), which is often taken for skin, hair, and nail growth disorders, can distort measured values. In many of the laboratory methods used, the biotin competes with the test substances used. As a result, it can lead to falsely high and falsely low TSH values. At high doses of biotin (eg, 10 mg), there should be at least a 3-day pause (and ideally a pause of 1 week) before measuring TSH.[16]

**Hasty Prescriptions**

"Sometimes, because of the assumption that every high TSH value is due to sickness-related hypothyroidism, thyroid hormones can be prescribed too quickly," said Feldkamp. This is also true for patients with thyroid nodules due to iodine deficiency, who are often still treated with thyroid hormones.

"These days, because we are generally an iodine-deficient nation, iodine would potentially be given in combination with thyroid hormones, but not with thyroid hormones alone. There are lots of patients who have been taking thyroid hormones for 30 or 40 years due to thyroid nodules. That should be reviewed," said Feldkamp.

**When to Treat?**

Feldkamp does not believe that standard determination of the TSH value is sensible and advises that clinicians examine patients with newly occurring symptoms, such as excess weight, impaired weight regulation despite reduced appetite, depression, or a high need for sleep.

If there are symptoms, the thyroid function must be clarified further. "This includes determination of free thyroid hormones T3 and T4, detection of antibodies against autologous thyroid tissue such as TPO-Ab [antibody against thyroid peroxidase], TG-Ab [antibody against thyroglobulin], and TRAb [antibody against TSH receptor], and ultrasound examination of the metabolic organ," said Feldkamp. Autoimmune-related hypothyroidism (Hashimoto thyroiditis) is the most common cause of an overly high TSH level.

**Treatment should take place in the following situations[17]:**

- In young patients with TSH values > 10 mU/L;
- In young (< 65 years) symptomatic patients with TSH values of 4 to < 10 mU/L;
- With elevated TSH values that result from thyroid surgery or radioactive iodine therapy;
- In patients with a diffuse enlarged or severely nodular thyroid gland; and
- In pregnant women with elevated TSH values.

# Association between sleep quality and benign prostate hyperplasia among middle-aged and older men in India

*BMC Public Health* volume 23,
Article number: 1147 (2023)

**Abstract**

**Background**

The association between sleep quality and benign prostate hyperplasia (BPH) has rarely been studied. The aim of this study was to examine the relationship between sleep quality and BPH among middle-aged and older men in India.

**Methods**

This study used data from men over 45 years old in Wave 1 (2017–2018) of the Longitudinal Aging Study in India (LASI). Benign prostate hyperplasia was self-reported, and sleep symptoms were assessed using five questions modified from the Jenkins Sleep Scale. A total of 30,909 male participants were finally included. Multivariate logistic regression analysis, subgroup analysis, and interaction tests were performed.

**Results**

Total 453 (1.49%) men reported benign prostatic hyperplasia and have higher sleep quality score (9.25 ± 3.89 vs. 8.13 ± 3.46). The results revealed that the sleep quality score and risk of benign prostatic hyperplasia were significantly correlated after adjusting for all confounding factors (OR:1.057, 95% CI: 1.031–1.084, $p < 0.001$]. After dividing people into four groups based on the quartile of sleep quality scores, compared with the first quartile group, the third quartile group was 1.32 times, and the fourth quartile group was 1.615 times more likely to develop benign prostate hyperplasia. A significant interaction effect of alcohol consumption was observed. (p for interaction < 0.05).

**Conclusion**

Worse sleep quality was significantly associated with a higher incidence of benign prostatic hyperplasia among middle-aged and older Indian men. A further prospective study is needed to clarify this association and explore potential mechanisms.

## Adolescents' acute care use for eating disorders has risen

During the COVID-19 pandemic, a rise in eating disorders was observed among children and young people. However, trends among adults are yet to be elucidated. In order to determine the rate of emergency department (ED) visits and hospitalizations for eating disorders and adolescents, researchers conducted a repeated cross-sectional study that examined population-based data from January 2017 through August 2022.[18]

They found that ED visits and hospital admissions for eating disorders increased significantly among adolescents during the COVID-19 pandemic. ED visits increased by 121% above expected levels, and hospital admissions increased by 54% above expected among patients aged 10 to 17 years during the pandemic.

"We are hoping this study continues to heighten awareness of the importance of eating disorders, and also to bolster support for eating disorder programs so that we can adequately care for patients and address the increasing demand for treatment and services," lead author Alene Toulany, MD, an adolescent medicine specialist and researcher at the Hospital for Sick Children in Toronto, told Medscape Medical News.

The study was published in the Canadian Medical Association Journal.[18]

**"A Pressing Concern"**

The researchers used linked health administrative databases that included all patients in Ontario who were eligible for the Ontario Health Insurance Plan, which is publicly funded. They compared observed and expected rates of ED visits and hospitalizations for eating disorders between a prepandemic period (January 1, 2017, to February 29, 2020) and a pandemic period (March 1, 2020, to August 31, 2022). The researchers examined the following 4 age categories: adolescents (ages 10 to 17 years), young adults (ages 18 to 26 years), adults (ages 27 to 40 years), and older adults (ages 41 to 105 years).

Among adolescents, the observed rate of ED visits during the 30 pandemic months studied was 7.38 per 100,000 population, compared with 3.33 per 100,000 before the pandemic (incidence rate ratio [IRR], 2.21). The rate of ED visits among young adults increased by 13% above the expected rate. It reached 2.79 per 100,000, compared with 2.46 per 100,000 in the prepandemic period (IRR, 1.13). Among older adults, ED visits increased from 0.11 per 100,000 in the prepandemic period to 0.14 per 100,000 in the pandemic period (IRR, 1.15). The rate of ED visits among adults remained approximately the same.

The rate of hospital admissions among adolescents increased by 54% above the expected rate during the pandemic. The observed rate of hospital admissions before the pandemic was 5.74 per 100,000, vs 8.82 per 100,000 during the pandemic (IRR, 1.54). Hospital admissions remained stable or decreased for the other age groups.

"Eating disorders have increased globally in children and adolescents during COVID," said Toulany. "There are a number of risk factors contributing to this pandemic rise, including isolation, more time on social media, decreased access to care (as many in-person services were not available due to the pandemic), as well as fear of getting infected. All of these could contribute to an increased risk of developing an eating disorder or of making an existing one worse."

Regardless of the cause, more investment in eating disorders research and eating disorder programs for adolescents and adults is needed, she said. "The pandemic served as a catalyst, because it started to shed light on the prevalence of eating disorders, especially in young people. But it's very important that we recognize that this has been a long-standing issue and a pressing concern that has been consistently overlooked and underfunded," said Toulany.

**Surging Eating Disorders**

Commenting on the findings for Medscape, Victor Fornari, MD, director of child and adolescent psychiatry at Zucker Hillside Hospital/Northwell Health in Glen Oaks, New

York, said, "Our experience in the United States parallels what is described in this Canadian paper. This was a surge of eating disorders the likes of which I had not experienced in my career." Fornari did not participate in the current study.

"I've been here for over 40 years, and the average number of our inpatients in our eating disorder program has been 3 to 5 and about a dozen patients in our day clinic at any one time. But in the spring of 2020, we surged to 20 inpatients and over 20 day patients," Fornari said.

"We can speculate as to the reasons for this," he continued. "Kids were isolated. School was closed. They spent more time on social media and the internet. Their sports activities were curtailed. There was anxiety because the guidance that we were all offered to prevent contagion was increasing people's anxiety about safety and danger. So, I think we saw dramatic rises in eating disorders in the same way we saw dramatic rises in anxiety and depression in adolescents, as well."

Fornari also cited social media as an important contributing factor to eating disorders, especially among vulnerable teenagers. "Many of these vulnerable kids are looking at pictures of people who are very thin and comparing themselves, feeling inadequate, feeling sad. Social media is one of the reasons why the rates of psychopathology amongst teens has skyrocketed in the last decade. The surgeon general recently said we should delay access to social media until age 16 because the younger kids are impressionable and vulnerable. I think there is wisdom there, but it is very hard to actually put into practice."

**Worsening Mental Health**

"I thought this was very relevant research and an important contribution to our understanding of eating disorders during pandemic times," said Simon Sherry, PhD, professor of psychology and neuroscience at Dalhousie University in Halifax, Nova Scotia. "It also dovetails with my own experience as a practitioner." Sherry was not involved in the research.

The pandemic has been difficult for people with disordered eating for many reasons, Sherry said. "There was a massive disruption or 'loss of normal' around food. Restaurants closed, grocery shopping was disrupted, scarcity of food occurred, hoarding of food occurred. That meant that eating was difficult for all of us, but especially for individuals who were rigid and controlling around the consumption of food. In this COVID era, you would need flexibility and acceptance around eating, but if you had a narrow range of preferred foods and preferred shopping locations, no doubt the pandemic made this a lot worse."

Certain forms of disordered eating would be much more likely during the pandemic, Sherry noted. "For example, binge eating is often triggered by psychological, social, and environmental events," and those triggers were abundant at the beginning of the pandemic. Boredom, anxiety, depression, stress, loneliness, confinement, and isolation are among the triggers. "COVID-19-related stress was and is very fertile ground for the growth of emotional eating, binge eating, or turning to food to cope. Eating disorders tend to fester amid silence and isolation and inactivity, and that was very much our experience during the lockdown phase of the pandemic," he said.

Sherry agrees with the need for more funding for eating disorders research. "We know in Canada that eating disorders are a very important and deadly issue that is chronically underfunded. We are not funding disordered eating in proportion to its prevalence or in proportion to the amount of harm and destruction it creates for individuals, their family members, and our society at large. The authors are correct to advocate for care in proportion to the prevalence and the damage associated with eating disorders," he said.

**From Medscape**

## New on COPD

GOLD 1 - mild: FEV1 ≥80% predicted. GOLD 2 - moderate: 50% ≤ FEV1 <80% predicted. GOLD 3 - severe: 30% ≤ FEV1 <50% predicted.

The first-line treatment in group E chronic obstructive pulmonary disease is an inhaled combination of a long-acting muscarinic antagonist and a long-acting beta-agonist.

This patient's symptoms and exacerbation history are consistent with group E chronic obstructive pulmonary disease (COPD) according to the latest Global Initiative for Chronic Obstructive Lung Disease (GOLD) classification system. Group E COPD, which is a combination of the two groups formerly referred to as C and D, is defined by a history of at least two moderate exacerbations or at least one exacerbation requiring hospitalization. The grouping is used to determine initial pharmacologic treatment, as shown below.

**Initial Pharmacologic Treatment for COPD**

| | mMRC 0–1 or CAT <10 | mMRC ≥2 or CAT ≥10 |
|---|---|---|
| ≤1 moderate exacerbation (not leading to hospitalization) | Group A<br>A bronchodilator | Group B<br>LABA + LAMA* |
| ≥2 moderate exacerbations or ≥1 exacerbation requiring hospitalization | Group E**<br>LABA + LAMA*<br>(consider LABA + LAMA + ICS* if the blood eosinophil count is ≥300 per $mm^3$) | |

mMRC=Modified Medical Research Council; CAT=COPD Assessment Test; LABA=long-acting beta-agonist; LAMA=long-acting muscarinic antagonist; ICS=inhaled glucocorticoids

* Single therapy may be more convenient and effective than multiple inhalers

** Group E is a combination of the two groups formerly referred to as C and D

For patients with group E COPD, as in this case, the preferred initial pharmacologic therapy is an inhaled combination of a long-acting muscarinic antagonist (LAMA) and a long-acting beta-agonist (LABA), such as umeclidinium and vilanterol. This is a new recommendation in the GOLD 2023 guidelines based on a Cochrane systematic review and meta-analysis that showed fewer exacerbations with combined therapy than with either agent alone.

An inhaled LABA or LAMA may be considered as initial long-acting bronchodilator therapy in patients with GOLD group A COPD (minimal symptoms and 0 to 1 moderate exacerbations not requiring hospitalization).

Emerging data suggest that blood eosinophil counts can predict the magnitude of response to inhaled glucocorticoids, with counts ≥300 per $mm^3$ suggesting responsiveness and counts <100 per $mm^3$ suggesting a low likelihood of benefit. In patients with group E COPD and a blood eosinophil count ≥300 per $mm^3$, initial therapy with a LABA–LAMA–inhaled glucocorticoid combination may be considered. This patient's eosinophil count is <100 per $mm^3$, so an inhaled glucocorticoid is not indicated.

Inhaled bronchodilators are preferred to oral bronchodilators, such as theophylline. Theophylline is not recommended unless other bronchodilators for long-term treatment are unavailable or unaffordable.

*Last reviewed Dec 2022.*

## Evolution of Management of Acute Myocardial Infarction

The global burden of cardiovascular disease (CVD) and particularly ischemic heart disease (IHD) or coronary artery disease (CAD) is huge. A recent WHO report estimated 17.9 million global CVD deaths per year. IHD and strokes constituted 85% of CVD mortality ie. 15 million per year. Asian Indians and South Asians have been proven to have a much higher incidence and severity of CAD and Acute Myocardial Infarction (AMI). Some studies claim a 10 times higher incidence than in Caucasians. If one goes by the statistics in India, the crude death rate in India was 9.1 per 1000 population (translating to 13 million deaths) in 2022. A 2017 Cardiological Society of India (CSI) study estimated that 3 million patients in India had ST elevation Myocardial Infarction (STEMI) and 4 million had non-ST elevation Myocardial Infarction (NSTEMI) that year. 1.2 million of STEMI patients (40%) received thrombolytic therapy and a mere 53000 underwent primary percutaneous coronary intervention (PCI) or primary angioplasty. 30 million people in India are estimated to have CAD.

Having stated the obvious that AMI is a deadly killer; let me now go through the evolution of its treatment in the last 60 odd years. At least some of us would remember the management of AMI prior to 1960's – sedation, oxygen, bed rest and ineffective or potentially harmful drugs apart from watchful expectancy being the order of the day. In hospital and 30 day mortality after AMI was 30% up till 1960. This did not include the number of patients with AMI who did not or could not reach hospital within the golden hour/hours, estimated to be at least 25% of patients who sustain an AMI.

The advent of CCUs and particularly defibrillation in the early 1960s in the developed world and possibly at least a decade later in our country did halve the hospital mortality from 30% to 15%. Mortality at 1 month to 1 year after an AMI has remained at 10-12% (slightly higher in NSTEMI than STEMI). 40% of deaths were attributable to heart failure. This situation endured till the late 1980s. How the management of AMI transformed thereafter is a very fascinating story.

At the 1912 meeting of the Association of American Physicians, James B Herrick presented a seminal paper titled "Clinical features of sudden obstruction of coronary arteries " in which he described an autopsy – " a short distance from its origin , the left coronary artery was completely obstructed by a red thrombus that had formed at a point of great narrowing....." Though no one gave it any importance then, it is considered a classic now. Herrick's medical observations at the bedside and his ability to correlate them with autopsy findings were truly revolutionary for its time.

### Evolution of Thrombolysis

The seeds for the potential of thrombolysis in AMI had been shown by JB Herrick, but the means to lyse clot were not available. That some strains of streptococci could induce fibrinolysis in human plasma clots had been known for decades. The first use of thrombolytic therapy (TLT) in patients with AMI was reported by Fletcher et al in 1958. In the 1960s and 70s, 24 trials evaluating the efficacy of IV streptokinase (STK ) were conducted. However due to faulty trial design and use of a very low dose of STK, efficacy could not be established and led to the abandonment of this mode of treatment. TLT in AMI received renewed attention after K. Peter Rentrop published his results in Circulation 1985 on the efficacy of intracoronary STK in recanalizing 75% of acutely occluded vessels in AMI. The overall effect on outcomes was still mixed and skepticism continued.

The publication of the GISSI trial from Italy in 1986 was what finally and definitely signalled the dawn of a new era for more effective treatment of AMI. 11,712 patients were randomized to receive either standard care or 1.5 million units of STK IV. 21-day mortality in patients receiving standard care was 13% Vs. 10.7% in those who received STK with a highly significant 18% relative risk reduction. At 12 months also total mortality was significantly lower- 17.2% for STK

group Vs. 19% for standard care group. Thrombolytic treatment (TLT) prevents 30 early deaths per 1000 patients if given within 6 hours.

**Primary Percutaneous Coronary Intervention (Primary PCI) or Primary Angioplasty in Myocardial Infarction (PAMI)**

This journey began in the early 1980s, in fact before the validation of IV TLT in AMI. Geoffrey O Hartzler of Kansas City USA published his experience of treating 41 patients with AMI with Primary PCI in 1983. This was thought to be highly controversial by most of the Cardiological community at that time given that new thrombolytic therapies were emerging. Proponents of primary PCI were called 'savages' or 'cowboys'. It took 10 years for Hartzler's experimental findings to be confirmed in large randomized trials.

In March 1993 (30years ago) the first two randomized controlled trials showing that PAMI was superior to IV thrombolysis, were published from USA and Netherlands simultaneously. In December 1993, Hartzler published his results with PAMI in 1000 patients. In 1997, a meta-analysis of the first 10 international trials highlighted a significant 34% reduction in 30-day mortality with PAMI (4.4%) Vs. IV thrombolysis (6.5%). It became a CLASS I recommendation in European Society of Cardiology guidelines for STEMI only in 2003. At this juncture, it is pertinent to note that we at Manipal Hospital, Bangalore started routinely doing Primary Angioplasty in MI in 1998.

Compared to IV TLT, Primary PCI reduced mortality by 34%, reinfarction by 64%, and intracranial hemorrhage by 95% and cerebrovascular accidents by 53%. Again, as with TLT, the golden hour /hours after onset of symptoms are vital for improving outcomes. A PCI related delay of 1 hour negates any mortality benefit compared to immediate TLT.

**Pharmaco Invasive Strategy**

It consists of immediate /early thrombolysis followed by CAG/PTCA within 3-24 hours. This is very relevant in our country where less than 100 cities and about 700 odd Cath labs nationwide are available to perform Primary PCI for a 1.4 billion population.

**Newer Thrombolytic Agents**

| GENERATION | FIBRIN SPECIFIC | NON-FIBRIN SPECIFIC |
|---|---|---|
| First | | Streptokinase<br>Urokinase |
| Second | Recombinant Tissue Plasminogen Activator (rTPA) | Pro Urokinase |
| Third | Alteplase<br>Tenecteplase<br>Reteplase & others | APSAC |

Four agents are used in our country – streptokinase, Alteplase, Reteplase and Tenecteplase. Each must be reconstituted before use. STK must be infused over 1 hour. It is the more suitable for hospital than community care. Two drugs are body weight dependent – Tenecteplase which is injected in a single bolus and Alteplase which must be infused, working best with accelerated infusion rate. Reteplase is independent of weight and is injected as a double bolus 30 minutes apart. Only STK does not require Heparin as adjunctive therapy for at least 24 hours to prevent re thrombosis. Patency rates with the newer fibrin specific thrombolytics are 10-15% higher than with STK (60-70%).However costs are about 5 times greater as well.

Door to Needle time is the time from first medical contact to start of TLT and ideally is 20 minutes. Door to Balloon time is the time from first medical contact to first balloon inflation and is ideally less than 90 minutes. These are terms used to reconfirm the importance of the golden hour and to ensure that hospital systems and standards keep improving constantly.

There are many more aspects of the therapy of AMI which are beyond the scope of this article.

However, **current antiplatelet regimes** in AMI are as follows:

1st choice: Aspirin + Ticagrelor

2nd choice: Aspirin+ Prasugrel

3rd choice: Aspirin + Clopidogrel

No other Anti platelet drugs are currently recommended for use in AMI.

**Glycoprotein IIb IIIa inhibitors :**

Abciximab intracoronary bolus is still used in settings where there is a huge clot burden and/ or in acute stent thrombosis. Eptifibatide and Tirofiban , the other Gp IIb IIIa inhibitors which were widely used before PAMI patients were taken into the Cath lab have largely gone out of use because of the availability of rapidly acting and powerful oral antiplatelet drugs notably Ticagrelor.

**Adjunctive Clot Busting Methods in PAMI**

1. Aspiration thrombectomy – Manual

A double lumen catheter is passed across the lesion over a 0.014 guide wire. A large lockable aspiration syringe is attached to the proximal port and clot aspirated into the syringe by manual suction. It is recommended in lesions with thrombus burden, and used in about 1 in 3 PAMIs.

2. Mechanical suction

Using a motorized vacuum pump to aspirate thrombus from within the coronary artery is particularly relevant in large coronary arteries with massive thrombus burden. The most used devise is called PENUMBRA.

3. Rheolytic thrombectomy- Angiojet / XSizer

Attempts thrombus fragmentation prior to aspiration, using pressurized heparinized saline jets to create low pressure zones thus creating a vacuum effect by which thrombus can be drawn into the catheter enabling better vessel reperfusion.

**Excimer Laser Coronary Angioplasty [ELCA]**

This is a very exciting new tool to deal with uncrossable /undilatable coronary stenoses as well as lesions with a large thrombus burden. EXCIMER is an acronym for EXCIted diMER. It produces pulsatile and short wavelength ultraviolet laser energy. The pulsatile nature ensures precise ablation with minimal thermal injury. Short wave length reduces depth of penetration (compared to infrared range of argon and ND-Yag lasers) used in the 1990s. This results in less collateral damage. First successful ELCA on humans was done at Los Angeles, USA in 1998. It is currently FDA approved for thrombotic saphenous vein graft lesions but is also being used (off label) for native coronary lesions with large thrombus burden.

The modern era, from the mid-1980s till date, has been a very exciting one in the field of Interventional Cardiology. I and many like me have been fortunate to practice cardiology during this entire period. The evolution of the management of AMI has been one of the crowning achievements of modern medicine in recent times.

**References**

1. Grines CL, Browne KF, Marco J, et al. A comparison of immediate angioplasty with thrombolytic therapy for acute myocardial infarction. N Engl J Med. 1993; 32: 673–679.

2. Gruppo Italiano per lo Studio della Streptochinasi nell'Infarto Miocardico (GISSI) Effectiveness of intravenous thrombolytic treatment in acute myocardial infarction. Lancet February 22, 1986DOI:https://doi.org/10.1016/S0140-6736(86)92368-83.

3.Hartzler GO, Rutherford BD, McConahay DR, et al. Percutaneous transluminal coronary angioplasty with and without thrombolytic therapy for treatment of acute myocardial infarction. Am Heart J 1983; 106:965- 73.

4. Herrick JB. Clinical features of sudden obstruction of the coronary arteries. JAMA. 1912;59:2015–20.

5. Keeley EC, Boura JA, Grines CL. Comparison of primary angioplasty and intravenous thrombolytic therapy for acute myocardial infarction: a

quantitative review of 23 randomized trials. Lancet. 2003; 361: 13–20.

6. National interventional council data for the year 2018-India Sreenivas Kumar Arramraju,[a,*] Rama Krishna Janapati,[b] E. Sanjeeva Kumar,[b] and Gokul Reddy Mandala[b] Indian Heart J. 2020 Sep-Oct; 72(5): 351–355.

7. Nour Tashtish,[1] Tarek Chami,[1] Tony Dong,[2] Besher Chami,[3] Sadeer Al-Kindi,[1] Haytham Mously,[1] Scott Janus,[1] Tarek Hammad,[1] Mehdi H. Shishehbor,[1] and Anjan Gupta[1] Routine Use of the "Penumbra" Thrombectomy Device in Myocardial Infarction: A Real-World Experience—ROPUST Study J Interv Cardiol. 2022; 2022: 5692964

8. O'Neill WW, Timmis GC, Bourdillon P, et al. A prospective randomized clinical trial of intracoronary streptokinase versus coronary angioplasty for acute myocardial infarction. N Engl J Med 1986;314:812-8.

9. Protty MB, Hussain HI, Gallagher S, Al-Raisi S, Aldalati O, Farooq V, Sharp ASP, Egred M, O'Kane P, Ludman P, et al. Excimer laser coronary atherectomy during complex PCI: an analysis of 1,471 laser cases from the British Cardiovascular Intervention Society database. Catheter Cardiovasc Interv. 2020; 97:E911–E918.

10. Rentrop P. Thrombolytic therapy in patients with acute myocardial infarction. Circulation. 1985; Vol 71, No 4, April:627-631.

**Dr Padmakumar**

**Padmakumar1956@gmail.com**

# Miscellany

**Every festival has its own message. Here is one very relevant.**

**Dickens' Christmas Carol**

Many of you will know of Charles Dickens great Christmas novella, "A Christmas Carol". It has been suggested that Dickens' story reshaped the image of Christmas worldwide, reinvigorating a festival which had its origins in pre-Christian times. The message of Christmas transcends cultures and beliefs around the world, promoting the message of **goodwill, peace, and harmony**. If only that message could somehow help bring peace to our troubled world and the awful military conflicts, the impacts of climate change and the widening inequality gap between the rich and the poor.

In the book, Tiny Tim is the young, ailing son of Bob Cratchit, Ebenezar Scrooge's underpaid clerk. Tim walks with a crutch and has 'his limbs supported by an iron frame'. Despite his physical difficulties, he is a positive and generous child. He thinks of others and is well-loved by his family. When visited by the "Ghost of Christmas Present," Scrooge is shown just how ill the boy really is (the family cannot afford to provide adequate care for him on the salary that Scrooge pays Cratchit. When visited by the Ghost of "Christmas Yet to Come," Scrooge sees that Tiny Tim has died. This, and several other visions, led Scrooge to reform his ways. At the end of the story, Dickens makes it explicit that Tiny Tim does not die, and Scrooge becomes a "second father" to him.

Tiny Tim's literary role in the story is to generate compassion and humanity in the old miser, Scrooge. Dickens uses Tiny Tim to represent the mass of poor children living in misery and need. He uses Tiny Tim to show the readers how vulnerable the poor are; there is no money for medical treatment and so Tiny Tim must needlessly die.

We also ask ourselves what disease did Tiny Tima suffer from? There is a large body of medical literature out there, trying to answer the question. I thought that I would draw your attention to paper in JAMA from 2012

**The above message is from Dr John Wynn-Jones, a fine rural physician, and ex-president of WONCA rural.**

Welcome to AFPI Karnataka
http://www.afpikarnataka.org

THIS SPACE IS OPEN FOR ADVERTISEMENTS