AFPI
Academy of Family Physicians of India
KARNATAKA

President's letter

Dear friends,

Listening, relationships, self-actualization and Family Medicine: Whether you are religious, spiritual, or simply in agreement with Maslow's hierarchy of needs, as human beings we are driven by a need for meaning, significance, and self-actualization.

Over the last decade and a half as a practicing family physician, I have realised that the essence of healing lies in the conscious act of listening. This is the primary source of therapy to the patient as well as the doctor. When listening is done with a commitment to caring and caring enough to express a willingness to forge a committed relationship (i.e. caring enough to be there through thick and thin, agreement and disagreement, feeling of easy love or not), then the doctor continuously and powerfully heals another and himself or herself in the process as well.

A family practice clinic in its essence is a 'listening cafe'. And choosing to be a family physician who embraces the values of family medicine, is choosing a life of continual spiritual growth and nourishment.

Having said the above, it helps immensely to have role models from whose life, choices, and relationships we can learn from. Dr. B.C. Rao in someone who immediately comes to mind in this regard.

In this issue of the newsletter, you will find the cover to Dr. B. C. Rao's soon to be launched book titled, "A Family Physician's Life: A collection of writings from the life and practice of a Family Physician over half a century". You will also find editorial notes by me and Dr. Sahadev Swain.

I wish you as much pleasure and reflective nurtrance reading the book as I did.

With warm regards,

Dr. Ramakrishna Prasad

President, AFPI Karnataka

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Contents

Editor's note

Any organization worth the name, has two main functions. One is to further the professional interests and the other is to promote social interaction amongst the members. AFPI K is no exception and in its short life span of nearly 10 years, it has survived on both fronts. Has it done exceptionally well? The answer is a reluctant no. There are many reasons. Most important one is lack of time. Most members are busy building their professional, social, and family lives.

Meetings are becoming not easy to arrange and periodicity too is becoming far in between. Webinars can be held but it is not like physical meetings especially for old doctors like yours truly. Webinars leave no room for social interactions.

Keeping all this view the newsletter of the organization is a useful tool which directly or indirectly serves the above purposes. But then, its usefulness or otherwise is judged by its ability to reach the members and get them to participate in its doings. Is our newsletter serving this purpose? I have my own doubts. At a recent meeting I asked members. Some pretty close to me as to their reading the newsletter. Only two hands went up out of the ten or so who were asked.

So, the question naturally arises, is it worth continuing this exercise? Would appreciate your comments and feedback.

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Celebrating Four months of Uninterrupted Learning and Collaboration

We are delighted to share the latest updates on our Continuing Medical Education (CME) initiatives, which have been instrumental in fostering collaborative learning over the past four months. Our primary objective has been to deliver highly relevant sessions customized for general practitioners, with a focus on encouraging interdisciplinary learning, enhancing engagement in primary care, and providingnetworking opportunities for medical professionals across Karnataka.

Recent CME Highlights:

February Session: FAMDOC PRENEURSHIP Summit

In collaboration with AFPI CPD, AFPI Karnataka organized a full-day CME session in February titled " FAMDOC PRENEURSHIP Summit." This innovative session aimed to empower medical professionals to explore entrepreneurial opportunities in the healthcare sector. Participants engaged in discussions and workshops coveringvarious aspects of doctor entrepreneurship, including setting up and managing healthcare clinics, leveraging technology for patient care and practice management, financial planning and investment strategies for medical professionals, and navigating regulatory and legal frameworks. The session received overwhelming participation and positive feedback, underscoring the growing interest among healthcare professionals in entrepreneurial ventures.

Moreover, during the summit, a manual was launched which provides extensive information on Strategic and Financial Planning, Operational Efficiency, Staffing and Team building activities, Inclusion of Services, Medical Equipment and Technology in Clinic, as well as Marketing and Branding. Notably, the manual includes insights from key leaders of AFPI who are entrepreneurs themselves, detailing their journey, experiences, and learnings, including the ups and downs encountered along the way. This adds a valuable personal dimension to the resource, offering practical wisdom and inspiration to aspiring healthcare entrepreneurs.

March Session: Update on Obstructive Airway Diseases - Asthma and COPD

In collaboration with Trustwell Hospital and the Karnataka Pulmonology Association, AFPI Karnataka organised a one-day CME session in March titled "Update on Obstructive Airway Diseases: Asthma and COPD." This comprehensive session aimed to provide participants with the latest insights and developments in the management of asthma and chronic obstructive pulmonary disease (COPD).
Renowned experts in the field led discussions covering topics such as disease pathophysiology, diagnosis, treatment options, emerging therapies, and patient management strategies. The session received positive feedback from attendees, highlighting its relevance and practical utility in clinical practice.
As we persist in our pursuit of enriching experiences and collaborative learning, AFPI Karnataka reaffirms its unwavering dedication to advancing medical education and championing excellence in patient care. We eagerly anticipate unveiling more engaging initiatives in the forthcoming months, further enriching our collective journey of growth and professional development.

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Dr. Ramakrishna Prasad
Editor, Book, 'A family physician's life'

Stories are powerful. They can also help us reimagine the state of our life, relationships, priorities, and society.

Dr. B. C. Rao weaves his reminiscences and reflections into stories that have the ability to transport us and transform us. From his early days in Nagoor, to his memorable descriptions of patients, their families, his friendships and the stories from his practice over more than five decades in Bangalore (and the occasional tale from elsewhere), this collection of his writings offers a rich glimpse into the history of our country, of Bangalore and the practice of medicine itself.

These are also not simply narratives from some bygone era. They allow us to reflect on our reality today and make us wonder about our future. Through these journeys in time, they also allow us

to reflect on the ethos, relationships and the thread of human values that are central to the relationship between doctor and patient, and between family physician and society. All in all, these writings are philosophical without being heavy and instructive without being formal. They poignantly illustrate what being a family physician has been over this period of history in our country, uniquely told through the eyes and voice of a family doctor chronicling his thoughts and feelings about medicine, society and its norms as they changed through the decades.

The added flavor comes from the fact that Dr. Rao is not simply another family doctor. Through his life and work, he is an exemplar of the trusted, wise and upright doctor that we wish all doctors would be. It is a privilege to listen to his voice and his views and his emotions including his joys and his angst as they unfold through these stories.

I cannot think of any particular group that will not benefit by reading this book. Regardless of whether you are a lay person or a medical professional, the recollections, reflections, nuggets and reminiscences will connect you to stories of your own lives and histories.

I would especially like to add here a note to medical professionals: Doctors today are faced with the issues of stress and loss of joy, loss of connection, and are confronted by the shift from a doctor- patient relationship into a client/ consultant relationship bound by transactional business models that are not built on the ethos and the sanctity of the doctor- patient relationship. Reading this book will remind you of the privilege enshrined in being a doctor and may even enable a reconnection with the joy of being a doctor.

Lastly, Dr. B. C. Rao, whom we lovingly call "Doc", has been a peerless mentor to me whose thoughts, support, and wisdom has shaped me in more ways than I can even narrate, so I write the above with a personal sense of honork and much gratitude.

Note by Dr. Sahadev Swain

Family Medicine holds the key to universal health coverage. Any society is only as strong as its weakest link. No one is healthy till everyone is healthy. The world experienced the havoc of the Covid-19 pandemic that started in one corner of the world but brought the whole world to almost a standstill. We forget health intelligence quite easily. It is the family physician who cares for maybe three generations that puts the family's health into perspective.

In India it is nowadays rare to find such experienced family physicians. Dr. B. C. Rao is one such rare family physician with a wealth of lifetime experience. It has been a great pleasure to know him personally and observe him from a respectable distance. I had a glimpse of his work while editing the book, Family Medicine in India: Success Stories. I also had the good fortune of listening to his keynote speeches at various FMPC (Family Medicine and Primary Care) conferences.

Dr. Rao is not only a very caring family physician, he has also nurtured many family physicians in India to grow in their career path. He has a balanced view of life and has been a great role model for doctors in India. He is never shy to advise - "Physician heal thyself". The book reflection is a personal reflection of this wise and experienced family physician of India. His reflection will take the readers certainly into a reflective journey. It depicts many of the encounters in his authentic and realistic style. He tells the story as is. It is the story of a noble soul described in a humble manner. The book will remain as a landmark of the documentation of development of contemporary Family Medicine movement in India.

Thanks to the persistence and patience of Dr. Ramakrishna (RK) Prasad that this book is going to reach the hands of many interested readers. It has been my pleasure to be associated with this book project. This has definitely given me a glimpse into the life and work of Dr. B. C. Rao. I am also fortunate to be associated with the talented and dedicated family physician Dr. RK.

I hope that the book will be an inspiration not only to the present generation of family physicians but also will be a beacon of light to future generations of family physicians. I wish the book all the success it deserves.

Diverse Career Avenues for Family Medicine Graduates in India

Introduction:

The field of Family Medicine in India has evolved significantly, offering a myriad of job opportunities for postgraduates that extend beyond traditional clinical practice. There are several avenues that family physicians can explore, enhancing both professional satisfaction and career growth.

Telemedicine and Online Consultation Platforms:

The digital era has opened up new vistas for family physicians through online consultation platforms. By enrolling in such applications with profit-sharing models, family physicians can tap into a vast pool of patients. With the assistance of marketing agencies, they can effectively promote their services, attracting a considerable number of online consultations. The high demand for family physicians in this space makes it a lucrative option

for those inclined towards remote healthcare delivery.

Corporate Health Sector Opportunities:

The corporate health sector presents multifaceted opportunities for family physicians. Tertiary care hospitals within corporate setups often require family physicians in their outreach and peripheral clinics. Some corporate hospitals even establish dedicated family clinics, further increasing the demand for qualified family physicians. The role may involve occupational health programs, preventive screenings, and managing the health of employees, contributing to both individual well-being and organizational productivity.

Hospital Employment in Secondary and Tertiary Care:

Secondary and tertiary care hospitals recognize the value of family physicians in providing comprehensive and holistic healthcare. Many hospitals offer employment opportunities for family physicians, either focusing on outpatient care or entrusting them with inpatient rights. This flexibility allows family physicians to tailor their roles based on their preferences and expertise, contributing to the overall healthcare ecosystem within a hospital setting.

Setting Up an Independent Clinic

Confident family physicians have the option to establish their clinics, ranging from small setups to larger, multidisciplinary practices. This approach allows for the inclusion of visiting consultants from various specialities, providing a comprehensive range of services. While the initial investment varies, this entrepreneurial route empowers family physicians to create a practice aligned with their vision and values.

Government Sector Opportunities:

While some states in India may not grant speciality cadre status to family physicians, there is ample room for them to build a thriving general practice in the community. By leveraging the skills acquired during postgraduate training, family physicians can establish themselves as primary healthcare providers, making a significant impact on community health.

International Opportunities:

The demand for family physicians extends beyond India, with opportunities available in foreign countries. Competitive remuneration packages await those willing to explore international markets. Although additional qualifying exams and, in some cases, additional degrees may be required, family medicine training in India serves as a robust foundation for those aspiring to practice abroad.

Conclusion:

Family medicine postgraduates in India have a diverse array of career paths to explore, ranging from the digital realm of telemedicine to traditional clinical practices and entrepreneurial ventures. As the healthcare landscape continues to evolve, family physicians find themselves at the forefront of providing holistic and patient-centred care, making significant contributions to both individual and community well-being. The versatility of family medicine positions it as an exciting and rewarding field with ample opportunities for professional growth and personal fulfilment.

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Tuberculosis and it's management in an outpatient setting.

Tuberculosis probably the oldest disease known to mankind. Mycobacterium was found in Egyptian mummies dating back to BC.
The causative organism Mycobacterium Tuberculosis was discovered by Dr Robert Koch in 1882. This disease was a major killer of people as there was no effective treatment in those days.
Let us now discuss some salient features of Tuberculosis
Today there are tremendous developments in diagnosis and management. Despite this, lakhs of people die from TB every year, TB is declared as a global emergency by WHO and this still holds good. Ler us discuss why this is so later

Signs and symptoms of TB

Latent TB

Infected but no signs and symptoms. About 40% of Indian and 25% of global population are having latent TB out of which only about 5% may develop active TB under various immunosuppressive conditions. Therefore, it is not practical nor beneficial to treat latent TB.

TB can affect any system in the body from head to toe except hair and nail and the symptoms depend on the system affected.
Common symptoms are fever, cough, loss of appetite and weight but symptoms can be acute or chronic, mild, moderate, or severe.
Whenever there is a diagnostic challenge, after ruling out all the other possibilities, tuberculosis must be ruled out and sometimes empirical treatment may have to be given for diagnostic / therapeutic purpose.

Classification: Is now simplified as DSTB (Drug Sensitive TB) and DRTB (Drug Resistant TB).

Diagnosis

Tissue diagnosis is a must from the suspected material.
Sputum / biopsy material to be subjected for histopathology, ZN stain and CB-NAAT.
CB-NAAT picks up only MTB even in very low concentration and gives information whether there is Rifampicin resistance.
Those who are Rifampicin resistant are invariably resistant to INH also, and fall in to the category of DRTB.
It is mandatory to clarify DSTB or DRTB before starting treatment because DRTB is on the rise, very dangerous, difficult to treat and often fatal.
Culture and sensitivity : If CB-NAAT confirm Rifampicin resistance, material should be sent for Liquid culture (Bactec) we get results in about 2 weeks.
LPA (Line Probe Assay) : LPA is a rapid technique based on polymerase chain reaction (PCR) that is used to detect Mycobacterium tuberculosis (MTB) complex as well as drug sensitivity to rifampicin Pl and isoniazid (INH)

Treatment of TB

Is simplified only two categories DSTB or DRTB.
DSTB treatment is same for TB anywhere and any severity.
Drugs used are HREZ (INH, Rifampicin, Pyrazinamide and Ethambutol) for first two months (Intensive phase) and HRE for 4 months (continuation phase).
Duration may be extended in special cases like CNS, Bone and joint TB, delayed response and the like.
Dosing also made easy with FDC (Fixed Drug Combination) one tablet for 15 kg body weight.
Supportive treatment
Adequate nutrition and management of side effects is important.
Vit B6 (Pyridoxine) routine administration is not in the guidelines. Any Multivitamin containing Pyridoxine 10 mg is sufficient, it is observed that Pyridoxine is being prescribed in the dose of 40 mg without any indication.
Pyridoxine competes with INH at binding site and reduce the efficacy of INH which is the most potent antitubercular drug.

DRTB (Drug Resistant TB)

MDR, XDR and all resistant TB comes under DRTB.
Treatment of DRTB is based on the culture and sensitivity pattern. Drugs used are very toxic with lot of side effects, preferably treated by an expert in an institution under careful monitoring of side effects.
The introduction of Bedaquiline has revolutionized the management of DRTB.
New regimens, do not have injectable and duration of 12 months, efforts are on to make it 6 to 9 months.
Primary care physicians are advised to manage DRTB in association with an expert from/in an institution.

Side effects of ATT

Common side effects are nausea, vomiting, burning stomach, bowel disturbance, giddiness, burning feet, skin rashes etc.
Most important and dangerous side effect is hepatotoxicity, if not attended on time can be fatal.
Liver enzymes elevated up to 3 times with symptoms and up to 5 times without symptoms can be accepted and treatment continued.
Above that, treatment should be stopped and can be reintroduced after liver enzymes return to normal either one by one or all at the same time.
Interestingly, most do not develop hepatotoxicity second time, if they do, we have to revise the combination.

Some useful tips

First line ATT HREZ is safe in pregnancy and in pediatric patients
Nausea and vomiting common after taking 4 to 6 tablets together.
Advise. light breakfast, tablets one by one, with 10 to 15 minutes interval with sips of water,
ATT can be taken any time, morning, or evening after food.
Rifampicin excreted in urine and makes it turn reddish orange colour. Do not forget to tell this to patient.
Advise patient not to discontinue ATT in part or full, make them understand that it will lead to resistance to drugs which is dangerous.
If ATT is discontinued for less than one month, continue and complete the course, If more than one month, restart.
As per new guidelines, all the contacts of open TB should be given INH prophylaxis at 10 mg per kg body weight.
Report all cases of TB you treat in NIKSHAY portal, this is mandatory.
HIV testing is mandatory before initiating ATT.
LFT testing prior to and periodically is not necessary, unless there are reasons to suspect liver damage like Alcohol use, Positive Hepatitis B, and C, Cirrhosis, or any other preexisting liver insufficiency.
Counsel all family members about all aspects of TB and educate them that TB is curable and not hereditary.
There is an excellent system under NTEP for diagnosis and treatment, totally free of cost, make best use of it.
All contacts of open TB should be given INH prophylaxis at 10 mg per kg body weight for 6 months.
Suspected material for CB-NAAT should be collected and transported in saline not formalin.
Sputum should be collected in in FALCON tubes for CB-NAAT, about 5 ml sputum is necessary.

In the beginning I had raised a question

Despite having excellent diagnostic and therapeutic facilities totally free of cost under NTEP, we are too far from the goal of elimination of TB by 2030 and TB remains a global emergency. Why this is so?

Family Physician is the first contact for most health-related issues, he has the advantage of early detection, management, prevention of spread, prevention of DRTB and he is the key in reaching the goal. Until family physicians are updated and committed in the TB elimination program, this program cannot be successful.
It is the responsibility of the family physician to diagnose and treat all forms of TB unless the patient needs surgical intervention or hospitalization.

Guidelines keep changing, keep in touch with NTEP website and keep pace with the latest guidelines.

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Clinical inquiry Q : What is more effective - oral vs intramuscular B12 ? Evidence based answer.

British Columbia guidelines dated Jan 18, 2023
B12 screening and testing should be done in symptomatic patients, and if there are risk factors.
Consider B12 supplementation without testing in asymptomatic patients with risk factors for B12 deficiency.
A daily multivitamin containing B12 is recommended for all people who could become pregnant (also folic acid), especially those with a vegan diet.

Levels of B12 do not correlate well with clinical symptoms. Elderly patients may have normal B12 levels with clinically significant B12 deficiency. Women taking oral contraceptives may have decreased serum B12 levels in the absence of clinical deficiency.

Injection B12 is indicated in confirmed cases of pernicious anaemia, altered GI anatomy, neuropsychiatric symptoms of B12 deficiency, pregnancy with B12 deficiency.

Medscape updates June 27, 2023
Cobalamin (1000 µg) should be given intramuscularly daily for 2 weeks, then weekly until the hematocrit value is normal, and then monthly for life.
Oral cobalamin (1000-2000 µg) also can be administered. Oral cobalamin is indicated in patients with hemophilia to avoid bleeding from intramuscular injections. It may be practical to administer parenteral cobalamin initially and then switch to oral cobalamin. Proton pump inhibitors, H2-receptor antagonists, and metformin may reduce serum vitamin B-12 concentrations by inhibiting the absorption of vitamin B12. Oral vitamin B12 supplementation is effective and safe in patients who underwent total gastrectomy.

July 2016, PathologyOutlines.com, Inc.
PubMed Search: the author says, in large doses (1 - 2 mg) are given by mouth, its absorption does not rely on the presence of intrinsic factor or an intact ileum - the free crystalline B12 is absorbed along the entire intestine by passive diffusion
A search study of Central, MEDLINE, Embase, and LILACS, as well as the WHO ICTRP and ClinicalTrials.gov.in 17 July 2017, selected 3 randomized control studies, In two trials employing 1000 µg/day oral vitamin B12, there was no clinically relevant difference in vitamin B12 levels when compared with IM vitamin B12.
Rahul Tandon, Jigar Thacker, Utkarsh Pandya, Mamta Patel, Krutika Tandon

Epub 2022 May 31.
Concludes that Increase in serum vitamin B12 levels and haemoglobin was better in children with nutritional macrocytic anemia receiving parenteral as compared to oral vitamin B12.
William K. Silverstein, MD; Yulia Lin, MD, FRCPC; Christoffer Dharma, MSc; et al JAMA Intern Med. 2019;
Randomized clinical trials demonstrate that treating vitamin B12 deficiency with oral supplementation substantially increases serum B12 levels compared with intramuscular injections, with no difference in hematologic or neuropsychiatric outcomes.

Conclusion

The traditional treatment for B12 deficiency consists of intramuscular (IM) injection, however, can be administered orally. Several studies have shown serum B12 concentrations to normalize after taking large oral doses.
Furthermore, oral treatment based on patient preferences, could avoid injection nuisance, reduces unnecessary travel for the patients or nurses and minimizes treatment costs.
One advantage of parenteral over oral cobalamin is that all abnormalities in cobalamin absorption are bypassed.
Treating B12 deficiency with oral supplementation increases serum B12 levels compared with intramuscular injections, with no difference in hematologic or neuropsychiatric outcomes.

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Inflammatory Bowel Disease (IBD)

IBD is due to chronic inflammation of Digestive Tract, and is a lifelong disease of unknown etiology.
The current hypothesis is that IBD results from exaggerated T cell mediated immune responses to specific components of the intestinal microbiota in genetically susceptible individuals, and the disease expression is triggered by additional environmental factors.

Risk factors are White population, Cigarette smoking for Crohn's, excessive use of antibiotics, NSAID and Family History. The relative risk among first degree relatives of subjects with IBD is 8 to 10 times higher than that of the general population

IBD is mainly divided into two types.
Ulcerative Colitis (UC) and Crohn's Disease (CD). CD mainly involves small intestine but it can involve anywhere from mouth to Anus. UC involves Colon and Rectum.
The diagnosis of IBD is usually made based on clinical, biochemical, radiological, endoscopic, and histopathological findings. Patient with IBD usually presents with chronic diarrhea, fatigue, abdomen pain, passage of mucus, rectal bleeding, poor appetite, or weight loss. IBD may be mild, moderate, severe, or rarely fulminant.
Extra intestinal manifestation includes involvement of Joints, Ankylosing Spondylitis, mouth (aphthous ulcers), eyes (Iritis, Uveitis, Scleritis), skin (Erythema Nodosum), Hepatopancreatobiliary system (Primary Sclerosing Cholangitis, Auto Immune Hepatitis).

Complications related to IBD includes Colon cancer, Cirrhosis, Cholangiocarcinoma.
Patients with UC can develop Toxic Megacolon, Perforation. Complication related to CD are Fistula, Abscess, Anal fissures, and subacute intestinal obstruction due to strictures.

Routine blood investigations may show anemia, elevated CRP, elevated levels of Fecal calprotectin. Baseline investigation to be performed are LFT, RFT, BS, Stool test.

Endoscopically in UC one can assess disease activity and this helps in grading. Findings may range from mild erythema, loss of normal vascular pattern to mucosal bleeding, spontaneous bleeding, and ulceration.

In CD endoscopic findings are multiple aphthae or linear ulcers, cobble stone appearance, large ulcers, fistulae, and strictures. Usually, CD presents with skip lesions and rectal sparing.

CT or MR Enterography plays role in assessing severity and extent of small bowel involvement

Capsule endoscopy can be used to study small bowel mucosa after ruling out stricture.

Histologically, UC will have basal cell infiltrates, cryptitis and crypt abscess. Other features to investigate are, dysplasia and viral inclusions. In CD the presence of lymphoid aggregates in the submucosa extending to the muscularis propria is a relative sign of CD even when granulomas are not seen.

In some patients, diagnosis will be a dilemma between Crohns vs TB even after all workup. In that subset of patients, it is advisable to start ATT (in India) and to check response after 2 months. If response is good ATT should be completed. If patients do not respond treat it as CD. If intestinal TB is treated as Crohn's with steroids, immunosuppressive drugs, Biologics it will lead to complications.

At present IBD cannot be completely cured but can be kept under control with medication in majority of the cases. 5-ASA is first line of treatment in UC. In UC Proctitis, topical 5-ASA with or without oral 5-ASA is used. 5-ASA is not useful in CD.
Oral steroids are used for inducing remission during UC and CD flare.

Thiopurines (Azathioprine and 6MP) are effective for maintenance of remission in UC and CD.

Patients requiring advanced therapy (biologics or small molecules) should be individualized as per their disease severity and achieving good remission (In India one should consider the cost factor.) The currently available biologics are given through intravenous or intramuscular route. Anti TNF drugs Infliximab, Adalizumab, Anti-Integrin drug Vedolizumab, Anti-IL -12/23 drug Ustekinumab are used for UC and Crohns. Small molecules are S1P modulators (Ozanimod) and JAK inhibitors (Tofacitinib and Upadacitinb) are used for UC. Upadacitinib is also used for Crohns.

UC on occasion can be fulminant (acute severe) when there will be six or more bloody stools per day, associated with fever, tachycardia, anemia and raised ESR/CRP. This must be promptly treated with IV steroids etc. It carries a high risk of mortality, morbidity and need for surgery (colectomy).

Surgeries in IBD are generally for palliation of symptoms; improve quality of life and treatment of complications. Recurrence is the rule. Usual indications for surgery in CD are strictures that are not amenable for endoscopic therapy, fistulae, abscesses, or perianal Crohn's. Indications for surgery in UC are failure of salvage therapy in acute severe UC, toxic mega colon not responding to medical treatment, hemorrhage, perforation, or obstruction.

IBD is a risk factor for Colorectal Cancer. CRC accounts for 15% IBD related deaths. Primary prevention by optimal therapy could reduce incidence of CRC. Surveillance for dysplasia should initiate 8 years after disease onset. Detection of early lesion by surveillance and its management could enhance survival

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Case report
Case of Leptospirosis [Weil's disease]

A 22 years old man came to the OPD with high grade intermittent fever, painful bleeding mouth ulcers, difficulty in swallowing for the past three days. He gave history of cough with occasional bloody sputum and complained of pain in his calf muscles.

On examination he was dehydrated, was drooling blood-tinged saliva, mouth was full of ulcers, tongue was coated and he had fever of 104 degrees with a pulse rate of over 140 beats per minute.

He was conscious, spoke with difficulty due to painful mouth ulcers, liver was felt and calf muscles were tender. He was admitted and measures were taken to correct dehydration by IV infusion of saline and temperature was controlled with parenteral paracetamol. Basic tests including CBC, LFT, RFT, blood cultures were ordered. As there was history of his having gone on a trek recently, a test for Leptospira IgM was also added.

His Serum creatinine was 4.8, TWBC was 14960, CRP176.6, Procalcitonin was negative, total bilirubin was 2.4, direct was 1.1 and his Leptospira IgM was positive In addition to IV fluids, he was given 100mgs of hydrocortisone thrice a day to tide over the crisis and injection of Doxycycline 100mgs twice a day was also started. With this patient became better and by the third day was able to swallow liquids and later solids and his fever settled to normal.

Discussion

Leptospirosis is not an uncommon zoonotic infectious disease with epidemic potential caused by Leptospira Inreroggans and L Biflexa. Transmission occurs when abraded skin or mucous membrane comes into contact with contaminated urine of rodents, dogs, carrier, or diseased animals. Common in rainy season and has endemic potential. Preventive measures such as avoidance of exposure of skin to flooded waters, using protective gear. Those at high risk like field workers, rescue personnel can be given weekly dose of 200mgs of doxycycline up to 4 to 6 weeks. Health education and awareness helps.

Post script

While handling this case as a family physician, I learnt a lot regarding not just the management of the disease but also the emotions involved in the patient and among the close relatives of the patient

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Long Covid

Some recent definitions

Definition no 1

Continuation or development of new symptoms 3 months after the initial SARS-CoV-2 infection, with these symptoms lasting for at least 2 months with no other explanation.

Definition no 2

Long COVID is broadly defined as signs, symptoms, and conditions that continue or develop after acute COVID-19 infection. This definition of Long COVID was developed by the Department of Health and Human Services (HHS) in collaboration with CDC and other partners.

It is more than three years since the profession has recognized the presence of this entity popularly called Long Covid. The constellation of signs and symptoms, involving all most all organs of the body made it tough to put a code to define it. Another difficulty was that this disease did not present with the same features in all patients and neither was the involvement of all organ systems, though some like the CNS and CVS were affected more than the others.

In most organs, it is the neuromuscular tissue that was involved and the ensuing symptoms closely mimicked Myalgic Encephalomyelitis [chronic fatigue syndrome], some even advocated that Covid is another form of this.

At last, international bodies including NIH have decided on giving this illness a code. ICD-10-CM 409.9 [International Classification of Diseases,10th edition, Clinical Modification]

Worldwide, the number of sufferers from this multiorgan syndrome is only on the increase. Some attempts though have been made to define and explain the salient features of this ailment. Most acute cases settle and patients become asymptomatic in 4 to 6 weeks' time. However, some 10% of sufferers have varied and persistent symptoms beyond this and go on up to 12 weeks and even up to a year and beyond. Women seem to suffer relatively more, though the acute disease appears more common in men. Some associations like type 2 diabetes, persistent viremia, Epstein Barr virus reactivation and of autoantibodies.

Prior vaccination greatly helps to reduce the incidence up to 40 to 70% but still leaves 30% who will be susceptible despite vaccination. It appears more with delta and less with Omicron phenotype. Repeated infections are associated with higher incidence of long covid

There is strong association between long covid and Chronic fatigue syndrome [Myalgic Encephalomyelitis] There appears to be two

factors in play. One is the viral factor and the other is the immune factor and the interplay of these two leads to Immune dysregulation with symptoms involving autonomic nervous system [Orthostatic intolerance] system such as Chronic diarrhea and orthostatic hypotension commonly seen in long covid .

At the tissue level, this results in inflammatory response and almost any organ can be involved with signs and symptoms particular to that organ such as myocarditis when heart gets involved

Diagnosis at preset is dependent on the history of the SARS infection in the past with lab evidence [if present] of persistent viremia. No definite biomarkers are as yet available, elimination of other causes and therefore a syndromic approach is at present the best way to manage.

This way one can try to help by graduating the exercise, use of drugs like Melatonin, amitriptyline, and Mirtazapine. Compression stockings in those with hypotension, use of probiotics [some evidence it helps] and bowel slowers. Drugs like Ivabradine in myocarditis. Antivirals like Monupiravir [to eliminate tissue stores of the virus]

As one can see, we have now come to accept that the entity of Long covid exists. Some researchers even feel that the Myalgic encephalomyelitis [chronic fatigue syndrome] explains most symptoms of long covid.

Is there a possibility of cure? Moot point now

Given below a detailed write up

Long COVID

People call Long COVID by many names, including Post-COVID Conditions, long-haul COVID, post-acute COVID-19, long-term effects of COVID, and chronic COVID. The term post-acute sequelae of SARS CoV-2 infection (PASC) is also used to refer to a subset of Long COVID.

What You Need to Know

Long COVID can include a wide range of ongoing health problems; these conditions can last weeks, months, or years.

Long COVID occurs more often in people who had severe COVID-19 illness, but anyone who has been infected with the virus that causes COVID-19 can experience it.

People who are not vaccinated against COVID-19 and become infected may have a higher risk of developing Long COVID compared to people who have been vaccinated.

People can be reinfected with SARS-CoV-2, the virus that causes COVID-19, multiple times. Each time a person is infected or reinfected with SARS-CoV-2, they have a risk of developing Long COVID.

While most people with Long COVID have evidence of infection or COVID-19 illness, in some cases, a person with Long COVID may not have tested positive for the virus or known they were infected.

CDC and partners are working to understand more about who experiences Long COVID and why, including whether groups disproportionately impacted by COVID-19 are at higher risk.

In July 2021, Long COVID was added as a recognized condition that could result in a disability under the Americans with Disabilities Act (ADA). Learn more:

Long COVID is a wide range of new, returning, or ongoing health problems that people experience after being infected with the virus that causes COVID-19. Most people with COVID-19 get better within a few days to a few weeks after infection, so at least 4 weeks after infection is the start of when Long COVID could first be identified. Anyone who was infected can experience Long COVID. Most people with Long COVID experienced symptoms days after first learning they had COVID-19, but some people who later experienced Long COVID did not know when they got infected.
There is no test that determines if your symptoms or condition is due to COVID-19. Long COVID is not one illness. Diagnosis of Long COVID is based on history, including a past diagnosis of COVID-19 either by a positive test or by symptoms or exposure, as well as based on a health examination.

Scientific evidence and studies behind Long COVID

Symptoms

People with Long COVID may experience many symptoms.
People with Long COVID can have a wide range of symptoms that can last weeks, months, or even years after infection. Sometimes the symptoms can even go away and come back again. For some people, Long COVID can last weeks, months, or years after COVID-19 illness and can sometimes result in disability.
Long COVID may not affect everyone the same way. People with Long COVID may experience health problems from different types and combinations of symptoms that may emerge, persist, resolve, and reemerge over different lengths of time. Though most patients' symptoms slowly improve with time
People who experience Long COVID most commonly report:

General symptoms

- Tiredness or fatigue that interferes with daily life
- Symptoms that get worse after physical or mental effort (also known as "post-exertional malaise")
- Fever

Respiratory and heart symptoms

- Difficulty breathing or shortness of breath
- Cough
- Chest pain
- Fast-beating or pounding heart (also known as heart palpitations)

Neurological symptoms

- Difficulty thinking or concentrating (sometimes referred to as "brain fog")
- Headache
- Sleep problems
- Dizziness when you stand up (lightheadedness)
- Pins-and-needles feelings
- Change in smell or taste
- Depression or anxiety

Digestive symptoms

- Diarrhea
- Stomach pain

Other symptoms

- Joint or muscle pain
- Rash
- Changes in menstrual cycles

Some people with Long COVID have symptoms that are not explained by tests or easy to manage.
People with Long COVID may develop or continue to have symptoms that are hard to explain and manage. Clinical evaluations and results of routine blood tests, chest X-rays, and electrocardiograms may be normal. The symptoms are like those reported by people with Myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS) and other poorly understood chronic illnesses that may occur after other infections. People with these unexplained symptoms may be misunderstood by their healthcare providers, which can result in a delay in diagnosis and receiving the appropriate care or treatment.

Some people experience new health conditions after COVID-19 illness.
Some people, especially those who had severe COVID-19, experience multiorgan effects or autoimmune conditions with symptoms lasting weeks, months, or even years after COVID-19 illness. Multi-organ effects can involve many body systems, including the heart, lung, kidney, skin, and brain. As a result of these effects, people who have had COVID-19 may be more likely to develop new health conditions such as diabetes, heart conditions, blood clots, or neurological conditions compared with people who have not had COVID-19.

People experiencing any severe illness, hospitalization, or treatment may develop problems such as post-intensive care syndrome (PICS).

PICS refers to the health effects that may begin when a person is in an intensive care unit (ICU), and which may persist after a person returns home. These effects can include muscle weakness, problems with thinking and judgment, and symptoms of post-traumatic stress disorder (PTSD), a long-term reaction to a very stressful event. While PICS is not specific to infection with SARS-CoV-2, it may occur and contribute to the person's experience of Long COVID. For people who experience PICS following a COVID-19 diagnosis, it is difficult to determine whether these health problems are caused by a severe illness, the virus itself, or a combination of both.

People more likely to develop Long COVID
Some people may be more at risk for developing Long COVID. Researchers are working to understand which people or groups of people are more likely to have Long COVID, and why. Studies have shown that some groups of people may be affected more by Long COVID. These are examples and not a comprehensive list of people or groups who might be more at risk than other groups for developing Long COVID:

People who have experienced more severe COVID-19 illness, especially those who were hospitalized or needed intensive care.

People who had underlying health conditions prior to COVID-19.

People who did not get a COVID-19 vaccine.

Health Inequities May Affect Populations at Risk for Long COVID
Some people are at increased risk of getting sick from COVID-19 because of where they live or work, or because they cannot get health care. Health inequities may put some people from racial or ethnic minority groups and some people with disabilities at greater risk for developing Long COVID. Scientists are researching some of those factors that may place these communities at higher risk of getting infected or developing Long COVID.

Preventing Long COVID

The best way to prevent Long COVID is to protect yourself and others from becoming infected. For people who are eligible, CDC recommends staying

up to date on COVID-19 vaccination, along with improving ventilation, getting tested for COVID-19 if needed, and seeking treatment for COVID-19 if eligible. Additional preventative measures include avoiding close contact with people who have a confirmed or suspected COVID-19 illness and washing hands or using alcohol-based hand sanitizer.
Research suggests that people who get a COVID-19 infection after vaccination are less likely to report Long COVID, compared to people who are unvaccinated.
CDC, other federal agencies, and non-federal partners are working to identify further measures to lessen a person's risk of developing Long COVID. Learn more about protecting yourself and others from COVID-19.

Living with Long COVID

Living with Long COVID can be hard, especially when there are no immediate answers or solutions.

Although Long COVID appears to be less common in children and adolescents than in adults, long-term effects after COVID-19 do occur in children and adolescents.

Data for Long COVID

Studies are in progress to better understand Long COVID and how many people experience them.
CDC is using multiple approaches to estimate how many people experience Long COVID. Each approach can provide a piece of the puzzle to give us a better picture of who is experiencing Long COVID. For example, some studies look for the presence of Long COVID based on self-reported symptoms, while others collect symptoms and conditions recorded in medical records. Some studies focus only on people who have been hospitalized, while others include people who were not hospitalized. The estimates for how many people experience Long COVID can be quite different depending on who was included in the study, as well as how and when the study collected information. Estimates of the proportion of people who had COVID-19 that go on to experience Long COVID can vary.

CDC and other federal agencies, as well as academic institutions and research organizations, are working to learn more about the short- and long-term health effects associated with COVID-19, who gets them and why.
Scientists are also learning more about how new variants could potentially affect Long COVID. We are still learning to what extent certain groups are at higher risk, and if different groups of people tend to experience different types of Long COVID. CDC has several studies that will help us better understand Long COVID and how healthcare providers can treat or support patients with these long-term effects. CDC will continue to share information with healthcare providers to help them evaluate and manage these conditions.

CDC is working to:

- Better identify the most frequent symptoms and diagnoses experienced by patients with Long COVID. Better understand how many people are affected by Long COVID, and how often people who are infected with COVID-19 develop Long COVID
- Better understand risk factors and protective factors, including which groups might be more at risk, and if different groups experience different symptoms.
- Help understand how Long COVID limit or restrict people's daily activity.
- Help identify groups that have been more affected by Long COVID, lack access to care and treatment for Long COVID, or experience stigma. Better understand the role vaccination plays in preventing Long COVID.
- Collaborate with professional medical groups to develop and offer clinical guidance and other educational materials for healthcare providers, patients, and the public.

Related Pages

- Caring for People with Post-COVID Conditions
- Preparing for Appointments for Post-COVID Conditions
- Researching COVID to Enhance Recovery
- Guidance on "Long COVID" as a Disability Under the ADA

For Healthcare Professionals

- Post-COVID Conditions: Healthcare Providers

Archived Content
Search for and find historical COVID-19 pages and files. Please note the content on these pages and files is no longer being updated and may be out of date.

- Visit archive.cdc.gov for a historical snapshot of the COVID-19 website, capturing the end of the Federal Public Health Emergency on June 28, 2023.
- Visit the dynamic COVID-19 collection to search the COVID-19 website as far back as July 30, 2021.

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Source: National Center for Immunization and Respiratory Diseases (NCIRD), Division of Viral Diseases