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PHARMAPEDIA

DIC NEWS LETTER
Department of Pharmacy Practice
NEHRU COLLEGE OF PHARMACY



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**NEHRU GROUP OF
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CREATIVE MINORITY

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India that is Bharath, has not only been a cultural entity, but also a geographical entity from time immemorial.

Kalidasa's kumarasambhava begins thus.

**“अस्त्युत्तरस्यां दिशि देवतात्मा हिमालयो नाम नगाधिराजः
पूर्वापरौ तोयनिधौ विगाह्य स्थितः पृथिव्या इव मानदण्डः”**



Dr. R. C. Krishna Kumar
Director- Operations, PKDIMS

On the northern frontier of this country that forms the heart land of gods, intercalating himself into eastern and western oceans like a measuring stick of earth, there stands the sovereign of snowy mountains renowned as Himalaya. This geographical entity called Bharath, continues to be the citadel of culture for thousands of years.

Arnold Toynbee, one of the world's greatest historians of all time, studied the civilizations of the world and published his discoveries in a twelve volume work "A Study of History". After studying these civilizations he came to the conclusion that Indian civilization is one of the oldest and is the only civilization continues to remain as today with all its vibrancy, positivity, continuity etc. It is not that it didn't face challenges, but to the contrary, Indian civilization that has faced the maximum number of difficulties and challenges. It has many times faced bloody attacks & mass murders by unscrupulous foreign invaders. But it has survived all these and evolved more vibrant and dynamic after every such event and remains to be so even today.

Why this civilization has survived these onslaughts but emerged victorious? The answer is every time it faced challenges, there came forward an individual or a group of individuals who were able to face these challenges and lead it to victory. This be called as "**Creative Minority**".

In a highly competitive world like today, India is facing a lot of challenges and these challenges have thrown up numerous opportunities too. Even though India has the largest young population and Indian youth have proved themselves to be leaders and CEO's of top MNCs. Sunder Pichayi, Sathya Nadella, Indra nooyi, Kiran Mazumdar to name a few. Now the world belongs to the knowledgeable person and it is our responsibility to get the best out of education, trying to become professionals during study period and be the "**Creative Minority**" who can take on the challenges and convert them to opportunities. As our Upanishads rightly proclaimed "**उत्तिष्ठत जाग्रत शस्य वराभिबोधत ।**"

"Arise, Awake and stop not till the goal is achieved". Be the best in studies, the world is yours.



CASE REPORT

Silent Hypoxia: A Frequently Overlooked Clinical Entity in Patients with COVID-19

This case demonstrates the importance of history taking and thorough clinical examination including the measurement of oxygen saturation to diagnose pulmonary involvement of COVID-19 at an early stage.

A 56-year-old man presented to the fever clinic of our institution on 23 April 2020, with a history of low-grade fever and dry cough for 6 days. There was also problem of fatigue and loss of appetite for the same duration. Notably, he did not have any shortness of breath, expectoration, haemoptysis, chest pain, orthopnoea, diarrhoea and loss of smell or taste sensation. He had been diagnosed with type 2 diabetes mellitus 11 years ago and was on regular oral antidiabetic medications (metformin and glimepiride) along with atorvastatin since then. He was a smoker with 10 pack-year history of smoking. He had no history of contact to any suspected or confirmed patient of COVID-19. On examination, he was febrile (37.8°C) with tachycardia (pulse rate—110/min). His blood pressure was 100/60 mm Hg and respiratory rate was 30/min. Pulse oximetry revealed oxygen saturation of 78% on room air. There was no clinical evidence of heart failure such as raised jugular venous pressure, pedal oedema or gallop rhythm on cardiac auscultation. On auscultation of the chest, rales and wheezes were audible bilaterally, most predominantly on the lung bases.

After taking opinion from the infectious disease specialist, he was empirically started on hydroxychloroquine 400 mg two times a day on day 1 followed by 400mg/day for next 4 days along with azithromycin 500mg/day for 5 days. Low molecular weight heparin (enoxaparin) was started in the dose of 60 mg/day through subcutaneous injection. Additionally, he was given some antitussives for his cough. He was put on moist oxygen at 5L/min. However, he was shifted to intensive care unit (ICU) for persistent desaturation and respiratory distress despite supplemental oxygen delivered via nasal cannula.

The patient remained in ICU for 3 days and was then shifted to general isolation ward as the respiratory status improved markedly. From day 6, he became afebrile and was able to maintain oxygen saturation of above 94% without supplemental oxygen. His cough subsided on day 8. On day 10, repeat oropharyngeal and nasopharyngeal swab specimens were sent which came as negative. He was discharged with advice to remain quarantined for 14 days.

Ref: <https://casereports.bmj.com/content/13/9/e237207?rss=1&ssource=mfr>

STUDENT CORNER

CRISPR TECHNOLOGY

Clustered Regularly Interspaced Short Palindromic Repeats is a segment of DNA containing short repetitions of base sequences, involved in the defence mechanism of prokaryotic organisms to viruses.

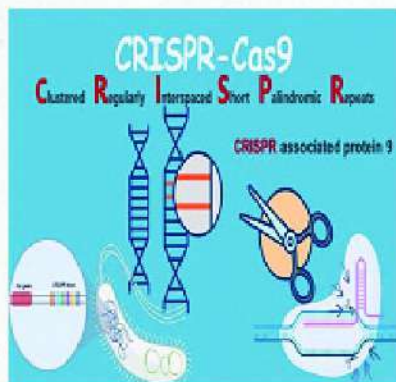
The CRISPR-Cas system is a prokaryotic immune system that confers resistance to foreign genetic elements such as those present within plasmids and phages and provides a form of acquired immunity. RNA harboring the spacer sequence helps Cas (CRISPR-associated) proteins recognize and cut foreign pathogenic DNA. Other RNA-guided Cas proteins cut foreign RNA. CRISPR are found in approximately 50% of sequenced bacterial genomes and nearly 90% of sequenced archaea.

Cas9 (or "CRISPR-associated protein 9") is an enzyme that uses CRISPR sequences as a guide to recognize and cleave specific strands of DNA that are complementary to the CRISPR sequence. Cas9 enzymes together with CRISPR sequences form the basis of a technology known as CRISPR-Cas9 that can be used to edit genes within organisms. This editing process has a wide variety of applications including basic biological research, development of biotechnology products, and treatment of diseases.

In 1993, researchers of *Mycobacterium tuberculosis* in the Netherlands published two articles about a cluster of interrupted direct repeats (DR) in that bacterium. They recognized the diversity of the sequences that intervened the direct repeats among different strains of *M. tuberculosis* and used this property to design a typing method that was named spoligotyping, which is still in use today. The CRISPR-Cas9 genome editing technique was a significant contributor to the Nobel Prize in Chemistry in 2020 being awarded to Emmanuelle Charpentier and Jennifer Doudna.

Ref: Edman M, King A, Watson C, King D (August 2016). "What is CRISPR/Cas9?". *Archives of Disease in Childhood. Education and Practice Edition*. 101 (4): 213–215. doi:10.1136/archdischild-2016-310459. PMC 4975809. PMID 27059283, <https://en.wikipedia.org/wiki/CRISPR>

By: Linat M Biju & Gissmol Shaji (Pharm.D Interns)



DEPARTMENT RESEARCH PUBLICATIONS

K G Prasanth et al, A Retrospective Study on Antibiotic Usage in a Tertiary Care Hospital, International Journal of Medical and Biomedical Studies, 2020; 4 (6):124-128

Narmadha M P et al, Study of Fibrinogen Level in Type 2Diabetes and Its Influence on Peripheral Arterial Disease, Saudi J Med PharmSci. 2020; 4:12: 1414-1418

Tamilselvan T et al, Evaluation of Anti-Cancer Activity and Phytoconstituents of *Biophytum sensitivum* Linn: An Invitro Study, *Ejpmr*, 2020.7(4), 390-393

K G Prasanth, Tamilselvan et al, Patient's Perceptions towards Doctor's Reaction on Non-Adherence of Medication and its Likely Consequences Indian Journal of Hospital Pharmacy 57 (2020)

Vineetha S et al, Antibigram and Antimicrobial Susceptibility Pattern of Bacterial Isolates from a Tertiary Care Hospital in Kerala, *Journal of evolution of medical and dental sciences*, 2020; 9-50:3787-3793

Nazeem Abdulla et al, Orthographic and phonetic Similarities among Marketed products Over kerala, world journal of pharmacy and pharmaceuticalsciences. 2020;9(11):2278-4357

Dawn V J et al, A comparative evaluation of otc medication among community pharmacists in thrissur district kerala, *World Journal Of pharmacy and pharmaceutical sciences*; 2020; 9 (12); 1409 -1419

PHARMA QUIZ

1. An 'orphan' drug is?

- a) A very cheap drug
- b) A drug which has no therapeutic use.
- c) A drug needed for treatment or prevention of a rare disease.
- d) A drug which acts on orphanian receptor.

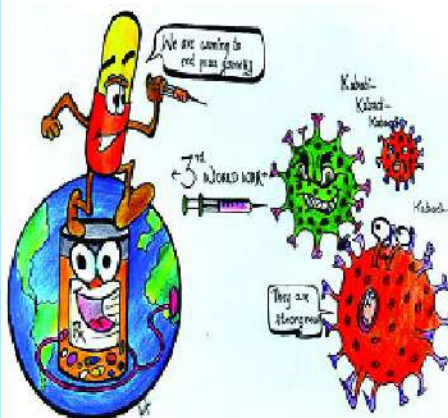
2. Which of the drug class is known to cause Fournier gangrene?

- a) α -glucosidase inhibitor.
- b) GLP-1 agonist.
- c) DPP-4 inhibitor.
- d) SGLT-2 inhibitor.

4. What is the standard reference range for vitamin B12?

Answer: See Last Page

CARTOON CORNER



Anagha 3rd Pham, D



Webinars by Department of Pharmacy Practice

1. International Webinar "How to Develop Pharmacy Skills & Interpersonal Skills to Become an Ideal Pharmacist" by Dr. R. Kingston, International Medical University, Malaysia on 25.05.2020
2. National webinar on "Lexicomp - A clinical drug reference tool for Pharm.D" in association with Lexicomp Ltd on 17.07.2020
3. National webinar on "Medical Products safety surveillance - India and Global scenario, by Dr. V.Kalaiselvan, Principal Scientific Officer, IPC on 27.12.2020
4. National webinar on "Development of Quality Standards of Biologicals" Dr. M. Kalaivani, Senior Scientific Officer, IPC 12.01.2021



OUTREACH ACTIVITIES

Pharm.D Interns actively participated in a medical camp conducted by PKDIMS at "Sanathanam Sevasadanam Old Age Home", Paruthipally on 14.12. 2020.

ACHIEVEMENTS AND AWARDS

Ms. Gayathri. K (Pharm.D Intern) received first prize for poster presentation on the topic "Study of mortality risk assessment in ICU of a tertiary care hospital " during one day virtual national conference on "Technology based pharmacy education, Practice and industrial training on skill development" organized by Alwar Pharmacy College on 05.12.2020



Activity	Number
Patient Counselling	123
Drug Information	52
ADR Reported	13

Pharma Quiz Ans:- 1 -c, 2 -d, 3 – c,4 -c, 5-a

Available Courses:

D. Pharm,
B. Pharm,
M. Pharm (Pharmaceutics, Pharmacognosy,
Pharmacy Practice) Pharm.D (Doctor of Pharmacy)

For Drug Information Contact:

Drug Information Center,

Department of Pharmacy Practice, PK Das Institute of Medical Sciences, Vaniyankulam, Palakkad,

Kerala -679522 Email ID: ncpdruginfo@gmail.com

Phone: 0466-2344500 Extn:3892

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