

A LOOK INTO SCIENCE



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EDITORIAL NOTE

'Mind is not a vessel to be filled, but a fire to be kindled' - Plutarch

With this view, we delve into the fascinating world of science in this issue, with articles spanning from past milestones to recent advancements. Enriched with artistic and literary contributions from our talented peers, this edition also highlights the creative side of our scientific community. For those looking unwind to their knowledge, our curated crossword offers the perfect escape. We also bring you an insightful interview with our institution's pediatric surgeon, Dr. Vivek Gharpure, who shares the inspiring journey and resilience that come with the responsibility of caring for young lives. In Campus Insight, we provide a window into the vibrant life of our college. From events and achievements to stories that reflect our shared experiences. this section captures it all.

As you turn these pages, may you feel part of a greater journey.

Stay curious, stay inspired.



KanikaJain,beingfelicitatedbyDean sir,RMC,andPrithvirajKawadebeingappreciatedbyViceChancellor sir,PIMS,DU.BotharestudentsofMBBS 2022batch.



COMPASSION FATIGUE

"Compassion fatigue is a state experienced by those helping people or animals in distress; it is an extreme state of tension and preoccupation with the suffering of those being helped to the degree that it can create a secondary traumatic stress for the helper." - Charles Figley of Tulane University. But emerging research from the Max Planck Institute for Human Cognitive and Brain Sciences in Germany shows that compassion fatigue is a misnomer and that it is empathy that fatigues in care givers, not compassion!



Neuroscientists used magnetic resonance imaging (fMRI) to explore the brain circuitry involved when people experience pain in themselves as well as when they observe someone else feeling pain. Married couples were studied to investigate pain-related empathy, with the assumption that couples are likely to feel empathy for each other. fMRI scanners were used to investigate the brain networks that were activated when a painful stimulus was applied to one partner and the other partner could see and hear their reaction. Areas of the anterior insula and the anterior middle cingulate cortex were activated when subjects received pain but also when they observed that their partner experienced pain. Other parts of the pain network were activated only in the partner actually receiving the painful stimulus. It was thus concluded that the part of the pain network associated with its emotional qualities, but not its sensory qualities, mediates empathy for suffering. Both the firsthand experience of pain and the knowledge that a beloved partner is experiencing pain activate the same emotional brain circuits.

Compassion goes beyond feeling with the other to feeling for the other. It increases activity in the areas of the brain involved in dopaminergic reward and oxytocin-related affiliative processes, and enhances positive emotions in response to adverse situations.

Unlike the dopamine depletion that occurs from activation of the pain networks, the neural networks activated when people feel compassion towards others activate brain areas that are full of receptors for oxytocin and vasopressin. Therefore, compassion does not fatigue — it is neurologically rejuvenating!

Compassion does not fatigue! - PMC (nih.gov)



A FIGHT FOR SIGHT

In 1940, an RAF pilot Gordon Cleaver, forgot his aviation goggles and while in flight a bullet shattered the cockpit's plastic covering. He was examined by Major Harold Ridley, an ophthalmological surgeon. What followed was decades of struggle against the stagnant mindset and resistant attitude of the medical fraternity. When Dr Ridley conducted several operations on Cleaver to restore his vision, he observed that his eye had no reaction to the bits of plastic. He had felt the need for a clear artificial lens to replace the 'coke bottle glasses' used in cataract surgeries for a long time. And now he had found the suitable material for it. Aware of the community's distaste for any kind of risk taking, he trusted his friend John Pike, an optical scientist atorkimenufacturing company to keep the project a secret.



On November 29,1949 Dr Ridley conducted his first artificial lens implantation on a forty five year old woman in St Thomas hospital.

But after his secret was revealed by a patient's accidental phone call to another Dr Ridley, he saw opposition mount against his revolutionary innovation. His lectures were dismissed by rigid and narrow eyed doctors, while being accepted positively by the younger ophthalmologists. The scepticism focused on the possible hazards of his technique rather than the achievement of success in the operations he had done so far. He even suffered from depression due to the universal criticism.



In the 1960s, Dr Charles Kelman perfected an instrument inspired by his dentist's ultrasonic probe the 'phacoemulsifier'. Dr Ridley fortunately was one of those brilliant innovators who witnessed their success in their lifetime. In 1986, he was elected a fellow of the Royal Society. In 1992, he received the Gullstrand medal and in 1999 he was honoured as one of the most outstanding and influential ophthalmologists of

the 20th century. In 2000, he was knighted for pioneering services to cataract surgery. The fight against inertia in medical science is far from over and this tale from history teaches us the need to support the innovators and visionaries to build a dynamic field.

References

The Book; Accidental Medical Discoveries: How Tenacity and Pure Dumb Luck Changed the World by Robert W. Winters

TUMOR MARKERS

A tumor marker is a biomarker that can be used to indicate the presence of cancer or the behavior of cancers.Tumor markers are playing an increasingly important role in cancer detection and management. These laboratory-based tests are potentially useful in screening for early malignancy, aiding cancer diagnosis, determining prognosis, surveillance following curative surgery for cancer, up front predicting drug response or resistance, and monitoring therapy in advanced disease.



Precautions;

•There is not a good consensus in the medical community about the value of most tumor or markers.

•They lack specificity and accuracy.

•False-positives can cause emotional distress and fear.

It is not yet determined if there is savings of life or money with testing.
Currently, much controversy surrounds the issue of mass screening for cancer using tumor.



Advantages;

- •Screening in general population
- •Differential diagnosis in the symptomatic patients.
- •Clinical staging of cancer
- •Estimating tumor volume
- •Prognostic indicator for disease progression.
- •Evaluating the success of treatment.
- •Detecting the recurrence of cancer.

Disadvantages;

Lack of reliability

•Proteins or modified proteins may vary among individuals, between cell types, and even within the same cell under different stimuli or different disease states.

•Normal cells as well as cancer cells can produce most tumor markers

•Tumor markers can be present because of noncancerous conditions

•People with cancer may never have elevated tumor markers in their blood

•Even when tumor marker levels are high, they are not specific enough to confirm the presence of cancer.

The future holds great promise for the field of tumor markers. With the advances in genomic and proteomic technology, human diseases will be classified based on molecular rather than morphological analysis. This will occur through techniques such as laser capture micro-dissection for the procurement of tissues and cells, and by combining genomic and proteomic analysis. Early diagnosis of disease is possible by using unique gene or protein profiles consisting of multiple biomarkers.

The analysis of panels of protein biomarkers may be performed by using traditional ELISA or antibodybased protein chips for parallel testing. Furthermore, there will be many more diagnostic tests generated as a result of genomic and proteomic discoveries.

In the future, the development of



biochips will grow much faster than rest of the diagnostic industry which will include DNA, RNA, and protein chip. All the types of samples will be analyzed including tissues, cells, and body fluids. Integrated diagnostic tools that combine these methods with molecular imaging technique will be used. Finally, bioinformatics will link to scientific data to clinical information to provide and better more comprehensive care of the patient's health. We will witness a rapid translation of new discoveries from the laboratory to patient's bedside. With advances in proteomic, laboratory testing and hence laboratory diagnosis become even more important in the integral health-care delivery system.

Conclusion;

A large number of molecular markers are associated with the occurrence, progression, and prognosis of carcinoma. Markers of increased proliferation in oral cancer have been identified and explored for more than a decade. Although a large body of literature exists on the association of these markers with tumor grading and different degrees of dysplasia in premalignant lesions, it is surprising that there are only a few markers that have an impact on prognosis. Nevertheless, markers of cellular proliferation are difficult to interpret as an independent scale for judgment for tumor prognosis.

There is ever-growing number of molecular markers for oral cancer. Nevertheless, a number of studies have shown that it is not the presence of tumor markers as such that make up for the prognosis of the disease, but also the location of these markers within the tumor.

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Virtopsy: Revolutionizing the field of Forensic

"Innovation is taking two things that already exist and putting them together in a new way." ~Tom Freston

Virtopsy, a portmanteau of "virtual" and "autopsy," represents a cutting-edge technique in forensic pathology that utilizes advanced imaging technologies to perform noninvasive post-mortem examinations. This method combines the fields of radiology, forensic medicine, and computer science to create a comprehensive, detailed, and often three-dimensional view of a deceased individual's body.

The concept of virtopsy was first developed in the early 2000s by Professor Michael Thali and his colleagues at the University of Bern in Switzerland.

Virtopsy leverages several advanced imaging technologies including Computed Tomography (CT) Scans that use X-rays to create cross-sectional images of the body. These images can be compiled into a three-dimensional reconstruction; Magnetic Resonance Imaging (MRI) that uses strong magnetic fields and radio waves to generate detailed images of soft tissues, such as the brain, muscles, and organs. It is particularly useful for identifying soft tissue injuries, hemorrhages, and pathologies not visible on CT scans; 3D Surface Scanning technique captures the external features of the body in high detail. It is useful for documenting external injuries. Post-mortem Angiography involves injecting a contrast agent into the blood vessels of the deceased to highlight vascular structures in imaging scans.

Virtopsy has a wide range of applications in forensic pathology and beyond. Virtopsy provides a detailed, objective, and reproducible method for examining the deceased, which is invaluable in legal contexts for Forensic Investigations, the high-resolution images can be shared with other experts and used in court as evidence.



In mass casualty events, virtopsy allows for rapid and non-invasive identification of victims. The detailed images produced by virtopsy are excellent teaching tools for medical students and professionals. They also contribute to research by providing high-quality data on various medical conditions and injuries.

Many cultures and religions have prohibitions against invasive procedures on the deceased. Virtopsy provides a respectful alternative that preserves the body while still allowing for thorough investigation.

despite its many advantages, Virtuopsy is not without challenges. The advanced imaging equipment required for virtuopsy is expensive and not widely available, especially in low- resource settings. Properly conducting and interpretating virtuopsy requires specialized training in both forensic pathology and radiology.



While virtopsy can supplement or replace some traditional autopsy procedures, there are cases where physical dissection is still necessary to obtain certain information like smell, texture and colour of an organ.

The future of virtopsy looks promising as technology continues to advance. Improvements in imaging technology will likely provide even more detailed and accurate images, further reducing the need for invasive procedures.

Al and machine learning algorithms could assist in the analysis of virtopsy images, identifying patterns and anomalies that might be missed by human observers. As costs decrease and the technology becomes more accessible, virtopsy could become a standard practice in forensic investigations worldwide.

The facility of virtual autopsy was started at the All India Institute of Medical Sciences in Delhi in March 2021; Dr. Sudhir Gupta; HOD FMT AIIMS Delhi mentioned that this is better for dignified management of the body and to decrease the consumed time for one autopsy. One success story includes the postmortem of comedian-actor Raju Srivastava was performed using virtopsy at AIIMS Delhi hospital.

There is a course in Forensic Medicine including Forensic radiology and virtopsy which is a 3 year DM course available at AIIMS Rishikesh in India.

Virtopsy represents a significant advancement in the field of forensic medicine, offering a non-invasive, detailed, and objective method for post-mortem examinations. While challenges remain, the benefits of this technology make it a valuable tool for forensic investigations, medical research, and respecting cultural practices. In india, the developing technology shows promise of arising as an advanced method for performing autopsy. As technology continues to evolve, virtopsy is likely to become an increasingly integral part of forensic science.

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Biofilms and Antibiotic Resistance: The Future of Infection Control

In the seventeenth century, a dry-goods merchant named Antonie van Leeuwenhoek first observed a complex group of microorganisms, he called "animalcules" swarming on living and dead matter. Surprisingly, Leeuwenhoek's curiosity and inventiveness also discovered these "animalcules' ' in the tartar on his teeth. These deposits contained a mat of various forms of microorganisms coexisting as the bacteria of dental plaque. This early study of dental plaque was the first documented evidence of the existence of microbial biofilms. Today, we know biofilms as complex multi-species or polymicrobial communities that thrive in both natural and man-made environments making infections difficult to detect, diagnose and treat.



Representing a predominant form of microbial life, biofilms are highly organized communities of microorganisms (e.g. bacteria, protozoa, algae, fungi), which are embedded in a matrix of highly hydrated extracellular polymeric substances (EPS) [1–3] produced by the microorganisms themselves. This matrix is composed of polysaccharides, proteins, DNA, and lipids, which protect the microorganisms from antibiotics, immune responses, and environmental stresses. Biofilms may exist as beneficial epithelial communities in rivers and streams, wastewater treatment plant trickling beds or even in the alimentary canal of mammals. They

can also form in man-made settings like indwelling medical devices like catheters or implants, industrial/potable water piping systems or for that matter, on household items like sinks and shower heads.

A CLINICAL PERSPECTIVE

Based on the type of toxins and virulence factors present in the microorganisms, biofilms can be benign or pathogenic. Pathogenic biofilms are the root cause of a gazillion of diseases. For instance, unsterilized venous ducts, joint prostheses, and mechanical heart valves may cause Surgical Site Infections. (SSI)

Implants and catheters under nosocomial conditions may cause Catheters Associated Urinary Tract Infections. (CAUTI)Common bacteria isolated from catheter biofilms are coagulase-negative Staphylococcus aureus, Pseudomonas aeruginosa, Escherichia coli, Streptococcus mutans, Enterococcus faecalis, Proteus mirabilis and Candida albicans. Colonization and biofilm formation on catheter surfaces by these microorganisms can occur within 24 hours of insertion and are pervasive and persistent in growth and colonization. Infectious endocarditis (IE) is a disease with substantial morbidity and mortality today due to the increasing use of implantable devices, such as prosthetic heart valves. Surface via fibronectin and polysaccharides can grow in a platelet–fibrin matrix to

form an intact biofilm. Biofilms formed on artificial surfaces promote inflammatory responses and hypercoagulability. As an inflammatory response, the body produces fibronectin and polysaccharides and migration of more platelets occurs as a thrombotic response. Microbes which initially adhere to the prosthetic valve, now colonize this and damage the myocytes.

Prosthetic joint infection (PJI) is a serious complication after joint replacement causing inflammation. Symptoms may include persistent joint pain, swelling and redness around the joint, fever and chills wound drainage and reduced joint mobility.Joint fluid analysis to detect bacteria and various imaging tests (X-rays, MRI, CT scans) may help in diagnosing the condition.

TREATMENT MODALITIES

The biofilm that causes infection is progressive. Current treatments for implantassociated infections involve the administration of high doses of antibiotics and surgical replacement if symptoms persist. The increase in antibiotic resistance has introduced problems in the treatment of patients using medical devices. Therefore, several new biomaterials have been developed to treat clinical medical device-related biofilm infection, from the addition of antimicrobials to surface modifications.



1. ACTIVE COATING

Active coatings work by releasing antimicrobial agents that are incorporated into the coating. Examples include antibiotic or silver compound coatings, nanomaterials, and polymers with antibacterial additives. These coatings provide a long-term release of antimicrobial agents and demonstrate strong antibacterial and antibiofilm properties.

Passive coatings, on the other hand, prevent bacterial attachment using hydrophilic materials. These include coatings with hyaluronic acid, hydrogels, and heparin, which are used on surfaces to prevent biofilm formation on medical devices. Hydrophilic surfaces repel bacteria by being covered with water molecules, acting as physical and energy barriers.

2. SURFACE COATING

The surface properties of medical implants play a crucial role in bacterial adhesion and biofilm formation. Modifying these surfaces can help prevent infections. There are two main types of surface modifications: physical and chemical.



Physical modifications include changing surface roughness, creating superhydrophobic surfaces, and using femtosecond laser-induced structures. These methods reduce bacterial colonization and biofilm formation without altering the chemical properties of

the material. Examples of physical modifications are superhydrophobic surfaces that repel bacteria, flexible surfaces with nanowires, and surfaces with sharklet micropatterns. Chemical modifications involve covalent and non-covalent modifications, the use of selfassembled monolayers (SAM), and incorporating quorum-sensing inhibitors (QSIs). These modifications inhibit bacterial growth and biofilm formation by altering surface energy and charge density. Examples include chitosan hydrogel films, heparin-mimicking polymers, and QSIs like brominated furanones

.Biofilm formation can lead to the development of drug resistance in bacteria and result in serious hospital-acquired infections. Biomaterial-related biofilm infections are particularly challenging for human health, posing a significant threat to the operation of medical devices and public health. Traditional antibiotic therapies have proven ineffective in eradicating biofilms, and bacteria have evolved various resistance mechanisms, making it increasingly difficult to treat these infections. Therefore, regulating the adhesion of microorganisms on material surfaces and preventing biofilm formation is crucial. The use of antibacterial coatings or surface modifications on medical materials not only prevents bacterial adhesion but also actively combats biofilm infections by releasing antimicrobial agents. Additionally, effective antibacterial therapy can reduce costs and shorten treatment durations.

Despite the increasing number of studies on biomaterial-associated biofilm regulation, most are conducted in vitro. More mechanistic studies are needed to address current shortcomings and advance these therapies to clinical trials. To better tackle



the issue of biofilm resistance, in-depth research and optimization of preventive measures are necessary. This includes developing new antibacterial coatings that are biodegradable and biocompatible and optimizing medical materials. Research in the field of biofilms involves an intersection of multiple disciplines, such as microbiology, molecular biology, surface chemistry, and material science. This multidisciplinary approach is not only academically significant but also holds substantial application value for clinical treatments, necessitating further research.

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FROM THE DEAN'S DESK PRACTICE QUESTIONS FOR STUDENTS

These questions are to give you an idea of the type questions that may come in your university professional / NEET / USMLE / Forthcoming NExT examinations.

Correct answers and reasons will be placed on the Notice Boards after 10 days of publication of UBIQUISCOPE magazine

Opening Narrative for Questions 1 to 8:

With a view to study the hypothesis "Raised Blood Homocysteine level is a risk factor for development of IHD", the epidemiological research team identified a source population of one lakh adults aged 30 to 50 years (both genders included) in a large district. They selected a representative sample of 40,000 subjects from this source population by "multistage random sampling". These selected subjects, who were to be followed up for the next 10 years, did not have any evidence of IHD at the start of the study. The difficulty being faced was that undertaking the analysis of blood homocysteine for 40,000 samples would have been a very difficult and costly exercise. To overcome this problem, the investigators decided that they will draw blood samples of all the 40,000 subjects and cryo-preserve them. Thereafter, during the follow-up, whenever a case of IHD occurred among the study subjects, another subject from the same study group, having same age and gender as the case of IHD, and who had not developed IHD till that point of time, would also be taken up, and the serum samples of both (the subject who developed IHD and the subject who did not develop IHD) would be analysed to make the comparisons.

Now, answer the following questions by identifying the best alternatives, AND ALSO WRITE DOWN THE REASON FOR YOUR ANSWER WHICH YOU HAVE SELECTED.

Q.1. The above study falls in which broad category of epidemiological designs:

(a) Basic design (b) Hybrid design(c) Incomplete design (d) Fallacious design

Q2.Specifically, which particular type of epidemiological methoddoes the above study represent:

(a) Retrospective cohort (b) Nested Case Control (c) Correlational (d) Case-Cohort

Q3. Which measure of association can be calculated from the above study:

(a) Relative Risk (RR) (b) Odds ratio (OR) (c) Numbers Needed to Treat (d) "Z" test for proportions

Q4.Which type of error can still occur in this study:

(a) Recall bias (b) controls may not be coming from the same source population which gave rise to cases (c) Loss to follow up (d) Inaccurate assessment of exposure status

Q.5.Assuming that the investigators decided to analyse the results based on exposure as high versus low homocysteine levels (cut-off placed at 20 mcmol/L), and the outcome as "IHD developed or not", which statistical procedure would be appropriate:

(a) Chi square for 2 X 2 table(b) paired 't' test (c) Unpaired 't' test (d) Chi square for linear trend in proportions **Q.6. If the exposure was kept at 3 levels (< 20, 20 – 100, and >100 mcmol/L), which statistical procedure would**

be appropriate:

(a) ANOVA (b) paired 't' test (c) Mann Whitney U test (d) Chi square for linear trend in proportions

Q.7. If the exposure variable was kept as actual values of blood homocysteine in mcmol / L and the outcome was in 3 categories of "not developed IHD / probably developed IHD / definitely developed IHD", then the most appropriate statistical procedure would have been:

(a) ANOVA (b) unpaired 't' test (c) Chi square for linear trend in proportions (d) Kruskal Wallis test

Q.8. What is a major strength of this study among the following alternatives:

(a) Incidence in the exposed group can be calculated (b) Relative Risk can be calculated (c) Odds ratio which will be a valid estimator of RR can be calculated (d) Incidence in the non-exposed group can be calculated

FROM THE DEAN'S DESK PRACTICE QUESTIONS FOR STUDENTS

Continued....

Now some other questions, away from the above scenario.

Q.9. In case a confirmatory Western Blot test is not available for HIV infection, we give three repeated ELISA tests, and the sample which is positive on first ELISA is given the second ELISA and if it is positive on second ELISA also, we give the third ELISA. If it is positive on the third ELISA test also, we say HIV infection is confirmed. By doing repeated 3 ELISA tests, what are we achieving with each of the succeedingtest:

(a) Sensitivity is increasing (b) Specificity is increasing (c) PPV is increasing (d) Cut-off is being shifted to a lower level

Q.10. While evaluating a new laboratory test for rapid detection of Dengue infection, against the Gold standard test, a total of 100 suspected patients were given the new test under evaluation and 90 came positive. Now, these 90 positive samples were given the gold standard test and 45 came positive. Which of the following is correct:

(a) Sensitivity is 90% (b) PPV is 50% (c) Specificity is 10% (d) NPV is 50%

Q.11. From details given in Q.11, which is the only one parameter of screening test performance that can be calculated:

(a) Sensitivity (b) Specificity((c) PPV (d) NPV

Q.12. Earlier, fasting blood sugar level of 110 mg ' dL was taken as the cut-off for Impaired fasting glucose (IFG) which was recommended by the IDA to be changed to 100. By adopting this new cut-off, which of the following will occur:

(a) Sensitivity will increase (b) specificity will increase (c) PPV will increase (d) Sensitivity will decrease

Q.13. From epidemiological typology point of view, a "Retrospective Cohort Study" is essentially a:

(a) Retrospective study (b) Prospective study (c) Cross-sectional study (d) Ecological study

A LITTLE ABOUT THE MAN BEHIND THE DESK



Sir has done his MBBS from King George's Medical College, Lucknow (1972 – 1976).

M.D. (Preventive Medicine) from (Community Medicine) (AFMC, University of Pune – 1984)

And Ph.D. (Preventive Medicine) (Community Medicine) (AFMC, University of Pune – 2001)

He also has Post Doctoral Training (2 years, full time, in Clinical Epidemiology) under INCLEN program

And a P.G Diploma in Hospital Management (Delhi) – 1991

And P.G. Diploma in Medical Laws (NLSUI, Bangalore) – 201

Sir is also very enthusiastic about teaching and research, and shows his appreciation to the top students of each year by motivating them and gifting them his books.





To know more about Dean sir, AVM Retd. Dr. Rajvir Bhalwar sir, click here

Campus Tales

If only one can fathom what a person's presence in one's life mean, he wouldn't let go. No, of course he would, only to realise that that particular person who changed his life by the simple deeds they did and the sweet voice and caring nature was nothing but an illusion. Despite all this, when the person comes back, not caring how one treated him, one realises that his illusion was a result of another illusion. People who you care about influence your thoughts in some way or the other. All this is fine. The problem starts when your caring turns into attachment. Then one thing leads to another, you're entangled between letting go and keeping that person beside you. What if they stop caring? What if they blame you for your caring? What if their ego suddenly is the only element that neither let's you leave them and also affects your attitude towards them? When all of this happens, realize that everything happens for a reason. Good or bad.

Ultimate truth is your betterment as a soul by the nature. You learn, you grow.

Most of all you stop judging. You realise that love is not about being with someone or caring when they care about you. Love is bliss. It is unconditional. It is when their material presence or absence or behaviour does not affect your attitude towards them. That, my friend is love. Once you realise this, every life that you encounter will be your responsibility.

CRISS- CROSS

~Shikhar Juneja (MBBS' 19, Intern)



Answers to previous edition;

- 1. Cancer
- 2. Cryopreservation
- 3. Mammogram
- 4. Oncologist
- 5. Lavender
- 6. Palliative

Across

- 2. Doctor specializing in female reproductive health
- 6. Type of care provided during pregnancy,
- childbirth, and postpartum
- 8. Method to prevent pregnancy
- 9. Examination to detect cervical carcinoma

Down

- 1. Preventive treatment of HIV
- 3. Medical professional specialising in childbirth
- 4. Drug regimen used to manage HIV
- 5. Body's defence system
- 7. Health check- up before birth
 - 7. Embolization
 - 8. Linac
 - 9. AARC

The Canvas

Med Poets Society

Magic may seem offputting to our logical minds,

STARDUST

• Maithili Tapi MBBS' 22

"This artwork beautifully blends the human heart with a carousel, in which each horse represents a different emotion and the heart being a vital organ, emphasizing the importance of these emotions in our life." But isn't it baffling that the amount of matter this universe holds, has never slightly changed. The iron that rushes your veins, was once the flaming core of a primordial nebulla. The calcium that binds your bones together, was once the trailing tail of a shooting star. Every time your heart skips a beat, cosmic rays could have collided on the surface of some gigantic asteroid. The day you first opened your eyes, a new star was also born in some distant galaxy. The times you feel elated. comets dance around you in similar harmony. The crooked smile that you wear around everywhere, was once the part of some primitive life. With every gasp of air you breathe in,

the stardust in your lungs sustains your existence. On silent nights when you admire the stars, the moon in your eves fetches your dreams from

the moon in your eyes fetches your dreams from another galaxy.

So, for the days you feel insignificant,

remember you are a walking miracle of infinite possibilities.

The universe is not around you. It is within you.

> Ishika Bandhopadhyay MBBS' 22

Words That Matter Ӌ

An extraordinary art of healing the smallest and most fragile lives, where every procedure holds the promise of a brighter future. Paediatric surgery is a field that combines unparalleled surgical precision with a deep emotional commitment and requires not only advanced surgical skills but also a deep understanding of the unique physiological needs of the young patients. In the hands of a paediatric surgeon, every life is a masterpiece in making, and every surgery a step towards a healthier, thriving tomorrow. With this edition of Ubiquiscope, we would like to introduce you all to Dr. Vivek Charpure, Paediatric Surgeon, Pravara Institute of Medical Sciences, Loni, as we explore his journey of challenges and rewarding moments of saving young lives.



1. Can you walk us through your educational journey, from undergraduate studies to becoming a pediatric surgeon? What were the most significant milestones and challenges?

My educational journey began at the Government Medical College in Aurangabad, where I completed my MBBS in 1981. Following that, I pursued MCh in Pediatric Surgery at AIIMS Delhi from 1982 to 1986. These years were marked by significant milestones and challenges, from mastering the foundational knowledge of medicine to specializing in the intricate field of pediatric surgery. The rigorous training and exposure to diverse cases at AIIMS played a crucial role in shaping my skills and expertise, setting the stage for my career as a pediatric surgeon.

2. What inspired you to pursue a career in pediatric surgery and at what point r calling?

Reflecting on my educational journey, I had no knowledge of pediatric surgery during my undergraduate studies. In my MBBS curriculum, I hadn't encountered any serious newborns with congenital anomalies or witnessed successful operations for conditions like ileal atresia, imperforate anus. My understanding was minimal. However, my father, who was also a surgeon, advised me that pediatric surgery is a rewarding field. I trusted his guidance and decided to pursue this.

3. Were there any mentors or figures who significantly influenced your path in medicine? How did they shape your approach and career?

Mentoring played a crucial role in my medical education. I remember one influential orthopedic surgeon, Dr. Gurjar, who emphasized the significance of self-study and encouraged us to learn independently. He believed that the facts he shared in lectures were readily available in textbooks and that our focus should be on learning how to diagnose the patients and to make decisions. At AIIMS, our teachers were exceptional, including Dr. Samiran Nundy, a pioneer in GI surgery in India, Dr. B. M. L. Kapoor, and Dr. I. K. Dhawan. These renowned surgeons personally assisted residents during their first procedures, ensuring we received the best possible training. This hands-on approach was invaluable because surgery cannot be learned from books alone; it must be observed and practiced. This lesson has always stayed with me, and I make sure that my residents get the same training and experience that I received from my mentors.

4. What was the most challenging aspect of your residency in pediatirc surgery? How did you overcome it?

The most challenging aspect of my journey was not technical but related to the prestige and rigor of the All India Institute of Medical Sciences (AIIMS). In 1982, there was only one AIIMS in the entire country, and it was regarded as the pinnacle of medical education in India. Coming from a small town in Maharashtra, I found it difficult to prove myself in an environment where AIIMS alumni were seen as the best. For those of us not from AIIMS, we had to work exceptionally hard to demonstrate that we were equally smart, intelligent, and capable of learning. This challenge of proving oneself is common everywhere, but it was particularly pronounced at AIIMS. Acceptance and respect had to be earned, and I believe there is no harm in that.

5. Can you describe a typical day in your life as a pediatric surgeon? How do you balance the demands of surgery with personal life?

There is a great proverb: if you are a surgeon, you are a surgeon for 24 hours. There is no personal life for a surgeon. Surgery is often described as a very jealous mistress - you have to meet her every day, spend time with her, give her gifts, and flatter her. In the context of surgery, these "gifts" are reading, studying, and practicing. Only through this dedication can keep this jealous mistress content; otherwise, you risk losing your mistress. As a surgeon, you must constantly think about your patients: how to perform their surgeries, what incisions to make, potential difficulties, and how to avoid complications. This mindset becomes automatic. Balancing personal and professional life comes much later in your career, usually after the age of 45.

6. How have technological advancements impacted the field of pediatric surgery during your career? Are there any innovations that particularly excite you?.

During my training, there were no significant innovations in surgical techniques. There was one major surgical operation developed during that time that we continue to practice, but most technical advancements came later, about ten years after my training. We had to learn laparoscopy on our own as it wasn't available during our training and was introduced much later, especially in pediatric surgery. Equipment availability was a significant challenge. When I began my career, there were only two ultrasound machines in the country one at AIIMS and one in Mumbai and a single CT machine at PGI Chandigarh. Today, PMT alone has more than a dozen ultrasound machines, but back then, obtaining an ultrasound was extremely difficult. As technology progressed, CT scans, MRIs, and isotope scans became available, which greatly facilitated our work. However, in those early days, we had to rely heavily on clinical judgment. There was no option for ultrasound-guided procedures; our foundational skills had to be solid. When asked if we could use ultrasound, I often have to say no and emphasize the importance of mastering basic clinical techniques.

7. Can you share a case that had a profound impact on you, either professionally or personally?

There are many cases that have had a profound impact on me, both professionally and personally. The ones that stand out are often the most challenging. Just as a sleepless night is memorable, the difficult cases are unforgettable. These include complex malignancy operations in children, such as removing more than half of a liver tumor from a small child. These surgeries test all your skills and require an extra effort to succeed. I recall a particular patient for whom I had removed a kidney due to cancer. A year later, she developed cancer in the other kidney. After consulting with american pediatric surgeons, we opted for chemotherapy followed by a partial nephrectomy. Today, more than 15 years later, she is grown up, married, and has children, a truly rewarding outcome. I also have patients I operated on 20 or 30 years ago who are now grown up, happily settled, and sometimes come back to say hello. These moments, where a few hours of work restore a life, are deeply gratifying and make the effort worthwhile.

8. What advice would you give to medical students or young doctors who aspire to become pediatric surgeons? What qualities and skills are essential for success in this field?

For medical students or young doctors aspiring to become pediatric surgeons, my advice is simple: hard work, study, and honesty are essential. Communication skills are crucial, and always remember that your patient is your highest priority. As a surgeon or doctor, you are engaged in a daily battle to save lives, fighting against formidable odds. Think of it as fighting with Yamraj, the god of death, to save your patients. Even if you lose, as long as you have done your best, there is no need for disappointment. To win this battle, you must be fully prepared, armed with knowledge and skills, much like a soldier equipped with weapons and training. Success in this field means being ready for any challenge, as saving a life today is a victory, even though everyone eventually faces mortality. Our goal is to ensure our patients live another day, which requires thorough preparation and unwavering commitment.

9. Looking ahead, what do you see as the biggest challenges and opportunities for pediatric surgery? How do you envision the future of this field evolving?

In India, we still have a long way to go compared to the Western world, particularly in pediatric healthcare. We are not performing transplants or advanced cardiac surgeries in children, often giving up too soon due to the prevailing mindset that it is cheaper to have another child than to invest in a sick one. This is compounded by the sheer number of births, about 3 crore new babies every year. Children's lives are undervalued because they don't vote, and thus, politicians prioritize adult health issues over pediatric care. This must change. Michael Faraday, the great physicist, once compared the potential of electricity to that of a newborn baby, seemingly insignificant at first, but vital for the future of humanity. Similarly, every child's life is precious and should be saved if possible. This requires technical competence and empathy. Many people don't like dealing with babies because they consider them messy, but in reality, babies are among the cleanest and purest beings. Working with children brings immense joy and fulfillment. Every day, I feel happy knowing I have helped babies grow up to lead normal lives. Loving your job turns work into fun, so it's essential to find genuine passion in what you do, not just for the monetary rewards.

OCTOBER 2024

THE DIAGNOSTIC DILEMMA

Informant: Mother (Reliable)

Taimur Salim Qureshi, a 3 year old boy, resident of Shrirampur, muslim by religion is a child of 1st birth order born of Grade 3 consanguineous marriage was brought to the opd by his mother on June 20, 2024. The child's mother reported converns regarding a noticeable loss of previously acquired motor, language and social skills over the past 6months.

The child had a normal development till 6months back when the parents noticed loss of already acquired skills which was sudden in onset. The child was earlier able to climb upstairs (1 foot per step) and downstairs (2 feet per step), was able to ride a tricycle; able to make a tower of 9 cubes and copy a circle; was able to tell his name- age- gender, form a 3- words sentence and was dry by night. During the last 6months, it was noticed that the child was not able to run and required support to sit; had a unidextrous apporoach towards objects, was able to say only bisyllable words like 'mama' and 'baba' and is having stranger anxiety

The boy is a FTND/3.5kg child born without any postnatal complications, Immunization is up to date; the last one being OPV booster and DPT booster dose 1, taken at the age of 2years. A loss of achievement in milestones was noticed during the past 6months

Neck holding was achieved at the age of 4months (delayed achievement of milestone)

All other milestones were achieved at proper age when a regression was noticed by the mother



The child is now able to sit only with support, is having a unidextrous approach: all achieved by the age of 6months and can speak in bisyllables and has stranger anxiety: achieved by the age of 9months

There is no significant family history of any neurodevelopmental disorder or psychological illness, no known exposure of mother to toxins during pregnancy

On systemic examination no abnormalities of cvs, rs, git or cns was noted Both s1 and s2 heard; Bilateral equal entry of air without any added sounds, abdomen was soft and non tender, no organomegaly; no focal neurological deficit recorded

INVESTIGATIONS OF CHOICE	DIFFERENTIAL DOAGNOSIS
1. Genetic Testing: to rule out Rett Syndrome, Fragile X syndrome and any other Chromosomal Abnormalities	1. Neurological: Autistic Spectrum Disorder, Rett Syndrome, Landau- Kleffner Syndrome, Developmental Epileptic Encephalopathy, Childhood
2. Metabolic Workup: to rule out any Inborn Errors of Metabolism	Disintegrative Disorder 2. Seizure Disorder: Lennox- Gastault syndrome
3. EEG: to evaluate for certain Epilepsy Syndromes like Landau- Kleffner Syndrome	3. Trauma or Injury
4. MRI Brain: to identify for any structural	4. Sensory Deficits: Progressive vision or hearing loss
abnormality	5. Others: Intellectual Disability, Fragile X syndrome, FTT, Thyroid deficiency, etc.

Development Regression refers to the loss of previously acquired skills or milestones and should alert to a possibility of a degenerative brain disorder

Reference: DVVPPRH Paediatric Ward No. 14; UG Textbook of Paediatrics by Piyush Gupta

- Vanshika Vats (Final year MBBS student)

ARMED FORCES MEDICAL COLLEGE

Silhouettes

DHWANI-THE SOLO INSTRUMENTAL COMPETITION

CRESCENDO-THE DANCE GROUP



SANSKAR MALANI OF MBBS 2022 STOOD 3RD



The Battle of The Bands



GIRLS BASKETBALL TEAM SEMI-FINALISTS IN AIIMBT

OCTOBER 2024

BOYS BASKETBALL TEAM QUARTER-FINALISTS IN AIIMBT

Moot Court

Department of Forensic Medicine and Toxicology & MBBS 2021

On April 20th, the seventh season of Moot Court explored the bold theme: "Videoconferencing in the New Age of Justice." Guided by Dr. Mohan Pawar sir of the Forensic Medicine and Toxicology department, students of MBBS 2021 enacted a riveting story bridging tradition and innovation.

Their dedication and creativity earned high praise from the chief guest, Adv Mahesh Ghatge sir, from the District Court of Aurangabad, Sambhajinagar, who along with other dignitaries, presided over the event. It was a testament to the evolving face of justice in the digital era, and showed how Videoconferencing is a boon for medical professionals, especially with today's fast paced lifestyle. The story also touched upon sensitive issues like Mental Health, violence, addiction, and highlighted the role of the Juvenile Justice Board.



Pravara Institute of Medical Sciences (DEEMED TO BE UNIVERSITY) Dr. Balasahob Vikhe Patil Bural Medical College



WHERE LAW MEETS ORDER JUSTICE IS BORN

MEDICOS 2021 PRESENTS









MAMBA'S MAVERICKS





WITHOUSER TOSETHER









CAPTAINED BY DR. AKHIL GUNTUPALLI, THE UNITED WARRIORS WERE CROWNED THE CHAMPIONS OF THE LEAGUE

UNITED WARRIORS

Deepesh Khabiya of MBBS 2021 was declared the Most Valued Player of the tournament in PPBL 2024





The UGCL cricket championship witnessed a thrilling season as the Raging Bulls, led by Yadnesh **Ballal**. showcased their teamwork and determination to win the title. leaving their mark as champions. At the centre of this unforgettable tournament was Yashvant Patil from MBBS Batch 2020, whose stellar performance not only earned him the titles of 'Man of the Match'. 'Man of the Series' and 'Best Batsman' but also stood as a testament to his unmatched skills.

Independance day celebration, 2024, at the flag hoisting ground



Cheers to compassion and community! NYSA NGO comes together on Nirjala Ekdashi for a heartwarming drinks distribution led by **Oneeka Sharma**, Batch 2020





期間の言語

TOURNAMENT HIGHLIGHTSWINNING TEAMMUPBLUELOCKDr. Vineet Yadav
MBBS INTERN Batch 2019





4 ELITE FOOTBALL TEAMSI NORAD'11 GOAL RAIDERS SKULL CRUSHERS BLUE LOCK











Synergia, the Academic club in association with the Department of Forensic Medicine and Toxicology, organised Mortis Mysterium 2.0 the annual FMT Quiz. 11 teams participated in the preliminary round, of which 5 teams were shortlisted. The event was a huge success, and the participant and audience turnover included both undergrad and postgraduate students. Over 5 increasingly interesting rounds, and the audience questions, the Synergia team kept the students on the edge of their seats. The winning team comprised of **Shreya Batish MBBS 2021, Dr. Sahil Saharan, Dr. Priyanka Rao and Dr. Himanshu Bhukar, MBBS intern batch 2019.** The runners up team was **Nitika, Sakshi Mehta and Ayesha from MBBS 2021, along with Dr. Siddhant Kakan,** resident, Dept of FMT.



Unlocking the mysteries of the human body ONE QUESTION AT A TIME The Synergia team, in association with the Department of Anatomy, organised a quiz competition. The preliminary round saw an enthusiastic response from over 10 teams, of which 5 proceeded to the final round.

The winning team comprised of **Sana Kotnal, Abhigya Rathi, Hridaya Jain, Vanshita Kumar all from MBBS 2022**. Runners up were **Dr. Parv Luthra, Intern RMC, and Shreyas Ramakrishna, Adeen Khatimiti, and Ishaan Munjal** of MBBS 2023 Batch



Cruciverbal 2.0, an academic crossword, was organised, which saw a heavy participation after its initial success, and 15 teams competed for the prize. Out of the five final teams, the winners were **Dr.Parv Luthra 2019, Ansh Doshi 2022, Dr. Saurabh Nagar, Dr. Titiksha Chauhan.** Runners up were **Avantika Sharma, Divya Agarwal, Eshita Metkar, and Kriti Prasad, all from MBBS batch 2020.**



Kanika Jain of Batch 2022 participated in a research program by PGI Chandigarh under guidance of **Dr. Mandar Baviskar.** She was the one of only 10 students selected at All India Level and is currently being guided by Professor of AIIMS Nagpur

Prithviraj Kawade of Batch 2022 presented a research paper on addiction pattern in medical students. It was held by TRCC (PIMS) in collaboration with CHRE (Centre for Health Research and Education) UK. Topic of presentation was Dopamine Dynamics: Exploring Addiction Patterns In A Cross-Sectional Study.





Basic course of fetal radiology and genetics conference - Maharashtra State Branch, Indian Radiological and Imaging Association held 9th Basic Course in Fetal Radiology and Genetics in association with Ahmednagar Branch of MSBIRIA and Department of Radiodiagnosis, Dr. BVP RMC.



Department of Ophthalmology conducted an eye donation fortnight, which was marked by two weeks of rangoli making, drawing, and essay writing competitions. The event also doubled as an awareness campaign where Residents of the department gave enlightening talks on the procedures, methods, benefits and myths and facts about eye donation. The department also promoted their eye bank, and felicitated their donors. **Nittya Modi** of MBBS 2022 won second place in the Essay Writing Competition.





Cultural event hosted by MBBS 2021 for MBBS 2022 batch



Logo credits to Ashish Pal, Sanika Patil and Art Committee MBBS 21





Arc-en-Ciel'24

Fresher's hosted by MBBS 2022 for MBBS 2023 batch

Logo credits to Rajveer Rajput MBBS 22







Celebrations abound after the successful culmination of the events, and truly, these are moments one can never forget...



Showing true spirit of service to society, students of 5 medical colleges, including Dr. BVP RMC, joined forces at the Vari Camp 2024, at Rajuri, Tal. Rahata.

This initiative was organised under the aegis of Sevankur Bharat, a student run organisation

Medical support and Charan Seva was provided to the warkaris coming from Trimbakeshwar with the Sant Nivruthinaath Maharaj Palkhi along its way to Pandharpur.



Vanshika Aggarwal and Srushti Wattamwar of MBBS 2021 represented our college at ZONALS round for IPHA inter medical college quiz, on Public Health and Community medicine.



With half the medicines from Nashik Sevankur and half donated by Rahata Tal. Was Druggist & Chemist Association, they from provided medical care and Charan Seva aath to Warkari senior citizens.

> Rotating duties every 45 minutes, these students discovered new experiences, fostered teamwork, and formed lasting friendships. Together, they made a difference and cleaned up after to leave no trace. All with the support from local authorities and volunteers.



OCTOBER 2024



Maitreyi-the Humanities club conducted a range of unique and engaging events, which incuded Heart to heart- a session on the SPIKES porotocol, conducted in association with Rotaract Club of Medicrew, a students run international not-for-profit organisation. The session was conducted by **Soumya Gangwar**, the General secretary for the Bioethics Unit of RC Medicrew.





The scholastic and literary teams of Maitreyi also conducted the Maitreyi Debate



MOTIONS

Menstrual leave is the bane of Indian Economy

Gandhian principles are the only tool to govern Indian Society

The event was judged by: Dr. Mandar Baviskar, Dr. Anuraag Aedma, and Dr. Sanjeev G. Kulkarni.



The winners were: Radhika Jadhao MBBS 2021 Abhirami Nair, MBBS 2020 Soumya Gangwar, MBBS 2021 Rashmi Deshpande, MBBS 2021

Maitreyi the Humanities club, in association with the Department of Surgery, conducted a suturing workshop for the students, which was a huge success and saw enthusiastic participation



Maitreyi club in association with the Department of Pediatrics, organised the 37th Annual IAP Quiz for undergraduate students. Organised for the final year students, 4 teams consisting of students who aced the pen paper round competed for the final prize, and a chance to represent the college at the Zonal and National levels.







The winners of the college round were: Rishab Sirohi Sanika Sharma of MBBS 2020

The runners up prize was shared by Rohini Swami and Geetika Raizada, all from MBBS Batch 2020.



ON 2024

me All

ates



VMMC & SAFDARJUNG HOSPITAL New Delhi

MEDSICON'24

A delegation from Dr. BVP RMC represented the college at Vardhaman Mahavir Medical College and Safdarjung hospital, New Delhi, consisting of Aryaman Wadhwa, MBBS 2020, Astha Singh, Prachi Pancholi, Raghav Sharma, Priyanshu Kumar Jha, Saurabh Pawar, Soham Lad, Soumya Gangwar, Vanshika Aggarwal, Rashmi Deshpande, Anuj Kabra, MBBS 2021, and Siddhesh Zilpe MBBS 2022.

They attended numerous workshops including a 15 hour course on suture practicum taken by Dr. Chintamani, respected surgeon and ex-Head of Department of Surgery, VMMC and SJH.

Anuj Kabra, Soumya Gangwar, Raghav Sharma and Astha Singh were also shortlisted for clinical case presentation. Rashmi Deshpande was shortlisted for clinical photo presentation, and Rashmi, Soumya and Raghav were shortlisted for the debate.

The 4 day conference was a huge success for our delegates.

Raghav Sharma stood 2nd in Debate

Soumya Gangwar bagged a spot in the top 10 at clinical case presentation and 3rd prize for debate.

Rashmi Deshpande won 1st place in Nexus Plexus, the medical connect-the-dots, special mention for clinical photo essay, and special mention for her efforts in the scientific paper writing workshop. Rashmi, Raghav and Soumya were also felicitated by the prestigious title of MEDSICON Scholar, reserved only for the top 20 Delegates of the conference, and recieved a scholarship from the American College of Surgeons.

NSS UNIT of RMC conducted a tree plantation drive on August 23rd. Volunteers of MBBS 2021 Batch also participated in the HarGhar Tiranga initiative and distributed flags to the residents of Loni on the occasion of Independence Day 2024.



Department of Pathology, Blood Bank, and the Student Council of MBBS 2020 Batch organised a Blood Donation Camp on the occasion of World Blood Donation day 2024. Volunteers pledged to donate and motivate others to donate blood as well on this day.



Priyanshu Kumar Jha, Vanshika Aggarwal, and Aadesh Abhay Patil of MBBS 2021 Batch participated in the college round for IAPSM Quiz organised on 7th April, on the occasion of World Health Day, and successfully emerged as the winners. The quiz was organised by the Dept of Community Medicine, and they competed against three other teams to bag this achievement.



MBBS Batch 2022 held a General Health Camp in Loni Khurd Village organised by the Department of Community Medicine on 7th July 2024.



Dr. Mandar Baviskar, faculty from the Department of Community Medicine, conducted orientation to ICMR STS 2024 and Protocol Writing Workshop for 1st and 2nd MBBS students, to further their efforts as budding researchers

SERIES REVIEW: DR. ROMANTIC, A KOREAN DRAMA

"Don't give up on the question of why we live and what we live for, the moment we give upon that question, our romance is over." – Kim Sabu



"Dr. Romantic" Season 1 is a Korean medical drama which portrays in depth, pressing issues within the medical community. Set against the backdrop of a rural hospital tucked away in the mountains, Doldam Hospital, "Dr. Romantic" centers around Boo Yong Joo, a renowned surgeon with triple-board certification who goes by the alias "Teacher Kim," or Kim Sabu. Kim Sabu is one with an enigmatic persona and unconventional methods which contrast sharply with the bureaucratic norms of modern medicine. We follow the journey of the doctors under the guidance of Kim Sabu at Doldam Hospital as they combat against new challenges and complex cases.

In the drama, we witness the team of doctors making life-and-death decisions in the operating room to resisting against the systemic corruption plaguing the medical industry. Every episode reveals the ethical challenges faced by healthcare professionals which makes us reconsider our beliefs about medicine and morality.

Kim Sabu's unwavering commitment to his patients, disdain for hierarchy and greed, support for his fellow doctors and one sole principle, "Always save the patient, no matter what" is what makes this show worth watching.

BOOK REVIEW: MY SISTER'S KEEPER by JODI PICOULT

"My Sister's Keeper" by Jodi Picoult is a deeply moving and thought-provoking novel that explores the intricate dynamics of a family faced with an impossible situation. The story revolves around the Fitzgerald family, where Anna, a 13yo girl was conceived specifically to be a genetic match for her sister, Kate, who has leukemia. Minutes after her birth, Anna's cord blood was used to save Kate's life. Over the years, Anna has spent nearly as much time in the hospital as Kate, donating blood, bone marrow, and other tissues. When she is asked to donate a kidney, Anna decides to seek legal emancipation from her parents to gain control over her own body.

Anna's lawsuit against her parents is the central conflict of the novel and raises ethical questions about parental rights and the autonomy of minors. This legal battle opens us up to the emotional core of the story revealing the complex relationships within the family. Another character- Jesse who plays the 'neglected older brother' adds depth to the story.

There is a chapter-by-chapter switch in the point of view. While you might find this irritating at first, it does help the story along; makes all the characters more real and relatable and allows us to see the family struggles from all angles.

This compelling and raw story made me really think and question myself- The moral side of me struggles with the idea of a test-tube baby conceived for a specific purpose, but I also wonder if my child were starving, how easy would it be to remain true to my morals and not steal? At day's end, I have to reassure myself that I would make the right choices, and then I knock on wood, hoping never to face such tough decisions or painful paths.

The novel's climax is both unexpected and touching, leaving us with moral and ethical questions which remain with us long after the last page is turned. This is not just a story about illness and medical ethics; it is a powerful exploration of family, identity, and the lengths to which we go to protect the ones we love. Finally, I feel that the author has managed to capture the emotions and the mental anguish from all perspectives extremely well and authentically; and definitely do recommend this book to all of us budding doctors as it offers valuable insight into family care and provides a perspective from the other end of the stethoscope.

> WORLD AIDS DAY DEC 1ST

WORLD MENTAL HEALTH DAY OCT 10TH WORLD COPD DAY NOV 20TH

WORLD DISABLED DAY DEC 12TH

INTERNATIONAL STUTTERING AWARENESS DAY OCT 22ND **Editorial Team**

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ARTWORK Shresth Sharma Anoushka Singh Suraj Mohapatra Maithili Tapi ADVISORY

Dr. Pratik Prakhar

Team Ubiquiscope

To all the former members of Ubiquiscope, thank you for the dedication, creativity, and passion you brought to the team. Your contributions have left a lasting impact, and your efforts continue to inspire us.



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