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Vapour



**The official E-Newsletter of the
Indian Society of Anaesthesiologists**

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YUVA ANAESTHESIA QUIZ, OPIOID CROSSWORD



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EDITOR'S NOTE



Dear esteemed members,

Warm greetings from Indian Society of Anaesthesiologists (ISA) National Headquarters !

I am happy to present to you the September issue of VAPOUR on the auspicious occasion of 'World Anaesthesia Day'. A variety of ISA activities including seven state conferences and the mid-term GC meeting have been conducted in the past month. This newsletter provides you glimpses of all these activities.

The opioid crisis (centred around fentanyl) in the United States is well known; but now, it has extended to other parts of the world. That means, has the opioid epidemic hit India? A 2019 study showed that the prevalence of opioid use in India is three times the global average. Heroin is the most common opioid used followed by pharmaceutical opioids. Tramadol addiction is growing in India.[1,2]The top three states in India that lead in opioid addiction include Uttar Pradesh, Punjab and Haryana.[3] Students in colleges are slowly falling prey to opioids. India is one of the largest legal producers of opium. Nevertheless, are we well-equipped to counter this epidemic? Do we have adequate Opioid Substitution Therapy clinics and deaddiction centres? Should we compulsorily look for opioid addiction during the pre-anaesthetic evaluation? Are we well-versed with the treatment of opioid toxicity? How are we as anaesthesiologists contributing to the rising opioid addiction? We need to become aware of these clouds of the upcoming opioid addiction crisis that are hovering over our country.

Furthermore, there is another 'hidden opioid crisis' that exists around the globe, that is, the problem of inadequate access to opioids for those that need it most eg-the cancer patients and those with chronic pain. It is said that the richest 10% of the world's population receives almost 90% of the morphine distributed worldwide.[4]This non-uniformity in availability of opioids exists even today though opioids have been used time immemorial in anaesthesia and pain management. Most of the old anaesthetic agents except opioids have been now phased out. Newer inhalational and intravenous agents including opioids have come in. In fact, remifentanyl will shortly be marketed and become available in our country.[5]

WTG Morton will certainly be on cloud nine if he enters the modern operation theatre and sees the newer anaesthetic drugs and equipment. This issue of VAPOUR brings to you a very interesting fiction-based article on this concept. This issue of VAPOUR also contains a bouquet of articles that will enlighten you on various aspects of opioids including their perioperative use and use in palliative care, the administrative aspects of opioid disbursement and stocking, opioid toxicity, opioid abuse and the opioid crisis. I am grateful to the knowledgeable authors of all these articles for their valuable contribution.

Nonetheless, the consumption of narcotics is not new in our country. The 'bhang'(made from the leaves of the female cannabis plant) beverages are traditionally relished by many during festivals to calm the mind and body and enhance festive mood and social interaction and have always had cultural significance in India. The cannabis is mentioned as one of the most sacred plants on earth in the Atharva Veda.[6] All this raises a multitude of questions. Is opioid-free anaesthesia really needed? Will opioid-sparing anaesthesia not be sufficient? Will opioid-free anaesthesia become a reality in the future? Are we really facing an opioid crisis in our country? Is there a 'war on drugs' going on? Nevertheless, whether there exists an opioid 'crisis' or 'no crisis' or a 'looming crisis', it is time that we anaesthesiologists should become well versed with the nuances of various perioperative issues regarding opioids, opioid addiction and opioid abuse. We should tune ourselves to make a rational use of opioids in anaesthesia and pain management. I am sure that the articles in this newsletter will help us to do just that....

Long Live ISA!

Dr Sukhminder Jit Singh Bajwa

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'VAPOUR'

(The official newsletter of the ISA National)

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ISA NOTICE-BOARD

CONFERENCE & CME CALENDER OF ISA (October, November 2023)

Conference/CME	Location	Hosted by	Dates
MP state conference, ISACON MP2023	Bhopal	ISA Bhopal city branch	1st-2nd October 2023
ISACON Maharashtra 2023	Pune, Maharashtra	ISA Maharashtra state & SAP Pune	5th to 8th October 2023
ISACON AP 2023 Vizag	Visakhapatnam	ISA Andhra Pradesh	6th to 8th October 2023
ISA sponsored National CME	Amritsar	ISA Amritsar	8th October 2023
ISACON Kerala 2023	Thiruvananthapuram, Kerala	ISA Trivandrum city branch	13th to 15th October 2023
ISACON Gujarat	Abu Road, Rajasthan	ISA Mehsana city branch	13th to 15th October 2023
ISA Central zone 2023 & ISA-Uttarakhand state annual conference 2023	VCSGGM&RI, Srinagar Garhwal	Uttarakhand Society of Anaesthesiologists	28th, 29th October 2023
ISACON 2023 (Annual conference of ISA)	Gurugram, Haryana	ISA Haryana state	22nd to 26th November 2023

Note: The dates mentioned in the above table are tentative & as per information received.
The list of upcoming conferences will be updated in subsequent issues.

Indian Journal of Anaesthesia

The ISA-IJA REAP academic webinar series (fortnightly), every Thursday between 5pm to 6pm) is being conducted.

ISA National PG online classes

These are being conducted regularly every Monday between 6.30 to 8pm. Experienced PG teachers are taking PG oriented classes including exam-oriented topics.

ISA academic webinar series

The ISA

Clinical Practice oriented webinar series (CLIP) and Clinical Reasoning and Problem Solving webinar series (CRISP) (fortnightly, every alternate Thursday between 6.30pm to 8.30pm) are being conducted and they have received good feedback.



ISA
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Anaesthesiologists

ELECTION NOTIFICATION 2023

(Read the Constitution and By Laws of ISA for details of the eligibility)

Patiala, 15/09/2023

Nominations are invited from eligible candidates for the following posts of Indian Society of Anaesthesiologists:

(National Electorate for all Posts)

POST		NUMBER
1. PRESIDENT ELECT		ONE POST
2. VICE PRESIDENT		ONE POST
3. GOVERNING COUNCIL MEMBER	NATIONAL	TWO POSTS
	WEST ZONE	ONE POST
	CENTRAL ZONE	ONE POST
	SOUTH ZONE	ONE POST
	NORTH EAST ZONE	ONE POST

1. Nomination (signed copy) for these posts are received from 15-09-2023 and must reach the Office of the Honorary Secretary, Indian Society of Anaesthesiologists (National) before 5:00 PM on 30-09-2023, by Registered Post with ACK due / Speed Post / Courier / E-mail / By hand at the Office of ISA National. A scanned copy of the nomination form should be submitted online / by E Mail also to isanhq@gmail.com and secretaryisanhq@gmail.com. The list of all Nominations received will be published in ISA Office and ISA website on 01-10-2023. Incomplete Nominations will be rejected. The list of all valid Nominations will be published on 8-10-2023. The Candidate, Proposer and Secoder must be Active Life Members of ISA with eligibility to vote online in their respective Zone.

2. A template will be sent to all eligible candidates on 1st October, 2023 to fill their profile (including achievements, awards, honours, experience, contributions to ISA etc.) as desired by ISA National so as to display as candidate's profile during elections and voting.
3. Last date for withdrawal of the Nomination is 15-10-2023 before 5:00 PM and the final list of eligible candidates will be published in ISA Office and ISA website on 16-10-2023.
4. Last date for Registering for Online Voting is 01-10-2023 up to 5:00 PM.
5. The final voter lists (online only) will be published in the ISA Website (www.isaweb.in) on 15-10-2023.
6. Elections will be held online only. No manual voting.
7. Online voting will be open for five days, from 01.11.2023 (08:00 AM) to 05.11.2023 (05:00 PM) on ISA website (www.isaweb.in). Real time count of voting and names of persons who have voted will be available in ISA website. The final details of votes polled will be published and the result will be declared immediately after voting is closed on 05-11-2023. There will be Pre Poll and Post Poll Audits (internal and external). One vote can be cast from one IP address.
8. Eligibility criteria:
 - a) Contestant must be a continuous member of society for not less than ten years for the posts of Vice President and President Elect.
 - b) Contestant must be a continuous member of society for not less than five years for the post of Governing Council Member ISA.
 - c) Contestants for the Posts of Vice President and President Elect should have served one full term of office in the Governing Council earlier.
 - d) Contestants should have attended three of the last five Annual General Body Meetings and must have signed in the AGBM Register.
 - e) Each nomination must be accompanied by self attested proof of the nomination fee. The Nomination fee (Non refundable) should be in the form of NEFT / cash deposit in favour of "Indian Society of Anaesthesiologists" (ISA National) payable at SBI, Patiala, Punjab (Current A/c No. 35292412841, IFS Code SBIN0011586). The nomination fee is Rs. 20,000/- for the Post of President Elect and Rs 10,000/- each for other posts.

All Life Members of ISA as on 14.09.2023 who have registered their E-Mail ID and Mobile Number with ISA NHQ only are eligible to Vote. New Members enrolled on or after 15.09.2023 and old members who do not register their E Mail ID and Mobile Number with ISA NHQ will have all the privileges of his/her class of Membership, except the right to Vote in this Election.

The nomination of candidates to the election shall be made in the prescribed format, which is enclosed herewith. Every nomination together with the written consent of the candidate to contest the election duly proposed by one and seconded by another Active ISA Life Member shall be sent to the Honorary Secretary, ISA National so as to reach him not later than 5:00 PM on 30-09-2023. This notification is issued as per the Memorandum of Association and By Laws of ISA for the conduct of 2023 elections.

Highest standards of our Specialty and Maintenance of integrity of ISA are expected during this election period.

Long Live ISA!



Dr. M.V. Bhimeshwar
President
ISA National



Dr. Sukhminder Jit Singh Bajwa
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ANAESTHETIC CHALLENGES IN AN OPIOID ADDICT PATIENT



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Opioid addiction is very common in western India. In many parts of Rajasthan, opium consumption is cultural practice. This centuries old tradition, rooted in social and ritual gatherings, often becomes a daily routine. Opium, harvested from the poppy plant, is of great cultural significance and is seen as a symbol of hospitality, bonding and spiritual connection. According to an observational study conducted by Lakshminarayana et al in 2009 in the rural village of Bikaner, the addiction rate was 6.9% which has continued to increase every decade.[1]

Opium is commonly consumed in the form of 'doda', 'afeem', heroin and prescription opioids; 'doda' being the most common form of opioid that is consumed as a part of cultural norms.

Pain relief and euphoria are the most common effects leading to their repetitive use, thus leading to heavy physical dependence.

Whenever these individuals require surgical interventions, they pose unique challenge for anaesthesiologists as they require personalised care plans for their unique needs. Effective communication and collaboration among the anaesthesia team, surgeons and psychiatrist is critical for successful perioperative care in these patients.

Opioid addicts may give false history or malingering during the pre-anaesthetic check-up. This can lead to intraoperative haemodynamic instability, requirement of higher dose of anaesthetic agents and exacerbation of the side effects. While creating an environment of open and non-judgmental communication, patients should be assured that their addiction history will be kept confidential and used solely for their benefit in planning their anaesthesia and pain management.

Non-verbal cues, such as body language and tone of voice, play a significant role in communication. Anaesthesiologists should convey empathy, respect, and understanding during interactions with patients, fostering a sense of safety and trust. Recently, we encountered a young male patient, who received a supraclavicular block for upper limb surgery. This was followed by the administration of 50 µg of IV fentanyl. The patient soon became restless and started demanding for more drug, after which his respiratory rate decreased and he became unconscious with pin point pupils on examination, necessitating immediate intubation. Perioperatively, the patient was haemodynamically stable. It was only post-extubation that the patient revealed his extensive opioid addiction history. On follow up, he was given multimodal analgesia and was started on withdrawal therapy as per consultation with the psychiatrist.

A comprehensive preoperative assessment is imperative to identify and address these issues proactively. It is crucial to educate patients about the potential risks associated with opioids, encourage adherence to prescribed pain medications, and provide resources for ongoing de-addiction support. A detailed history about opioids, including dose, frequency, duration and dependence, should be taken. Patients often present with hypoproteinemia, hypovolaemia and anaemia due to poor nutritional status, and respiratory depression leading to impaired ventilatory response to hypercapnia.

Patients on inhalational opiates may present with soft palate perforation. If posted for elective surgery, the patient must be detoxified with tablets of clonidine 100 µg, tramadol 50 mg, amitriptyline 25mg, chlordiazepoxide 10mg, loperamide 5 mg and capsule of omeprazole 20mg and to cover up the withdrawal phase. After symptomatic relief (about 2 weeks), the patient is administered tablet naltrexone 25 mg once daily as a part of

abstinence maintenance therapy and the surgery can then be planned.

These patients are at a greater risk of vomiting and aspiration due to delayed gastric emptying and Munchausen's syndrome (swallowing air to mimic intestinal obstruction). Anaesthesiologists may encounter difficult intravenous cannulation in these patients because of the higher incidence of thrombophlebitis.

Regional anaesthesia may be safely administered to opioid-addicted patients. However, they are prone to hypotension and bradycardia due to opiate induced decrease in sympathetic tone and inadequate intravascular fluid volume secondary to chronic infections (endocarditis, hepatitis and human immunodeficiency virus infection), malnutrition and adrenocortical insufficiency.

Chronic opioid use leads to cross-tolerance to central nervous system depressants that may manifest as decreased analgesic responses to nitrous oxide. Conversely, acute opioid administration decreases the minimum alveolar concentration (MAC). Use of opioids can cause chest tightness and laryngeal muscle rigidity which makes difficult bag and mask ventilation and intubation. Appropriate dose adjustment of anaesthetic drugs is required because of depleted intravascular volume, malnutrition and liver disease.

If non-opioid anaesthesia is planned, naltrexone should be continued till the day of surgery and thereafter. Paracetamol, non-steroidal anti-inflammatory drugs, ketamine, sedation with benzodiazepines, volatile anaesthetics form the mainstay of non-opioid anaesthetic regimens.

If a patient is on preoperative methadone or buprenorphine maintenance therapy, it is

advisable to continue till the morning of surgery. Naltrexone should be discontinued 24–72 hours prior, if opioid-based anaesthesia is planned and restarted after 5–7 days.

If these agents are continued, then it is better to avoid intra-operative opioids to prevent precipitation of withdrawal.[2]

If opioid-based anaesthesia is planned, naltrexone should also be discontinued at least 24–72 h before surgery. The amount of opioid analgesic required may be greater (30 to 100%) than usual and result in deeper and prolonged respiratory depression. So, rapidly acting opioid analgesics are preferred. Patient should abstain from opioids for 3–5 days before resuming naltrexone treatment. Patient can be started on multimodal analgesic regimens via patient controlled-analgesia (PCA) or patch to cover up this opioid free phase postoperatively. The mixed agonist–antagonist opioids such as nalbuphine, butorphanol, and pentazocine should be avoided as they may precipitate acute opioid withdrawal in these individuals.[3]

Post-surgery opioid based analgesia is often inadequate for pain management in these patients. This can lead to weaning difficulties in the intensive care unit. Prolonged pain can result in complications like emergence delirium and emergence agitation, hampering patient's recovery. To counter this, buprenorphine has been used peri-operatively in the critically ill patients as rotation therapy or tapering long term opioid therapy. Multimodal analgesia and PCA are also good options. After surgery, the patient is advised to undergo de-addiction and rehabilitation.

In conclusion, the successful anaesthetic management of an opioid addict relies on obtaining a detailed patient history, building trust, conducting a thorough pre-anaesthetic checkup, achieving a delicate balance to avoid both under and overdosing and ensuring adequate pain management.

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THE ROLE OF ANAESTHESIOLOGISTS AS ADMINISTRATORS IN POLICY MAKING ON OPIOID DEPENDENCE



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Opioid use disorder is a rising public health crisis, impacting millions of individuals and families worldwide.[1] It is estimated that in India, 4 million people use opioids and about 1 million are opioid dependent. A recent study stated that 2 lakh 32,000 are opioid dependent in Punjab alone.[2] As the opioid crisis continues to escalate, policymakers are increasingly turning to healthcare professionals for guidance and expertise in addressing this complex issue. Anaesthesiologists, with their unique knowledge and experience in pain management and anaesthesia, play a crucial role in combating this opioid epidemic. The current opioid crisis is emanating from inappropriate prescribing, marketing, diversion, misuse of oral prescribed opioids for acute and chronic cancer pain.

We as anaesthesiologists, not only play a vital role in ensuring patient safety and pain management during surgical procedures but our contribution extends far beyond the operating room.

We can develop policies related to prescription practices and pain management, as the overprescription and misuse of opioids during the preoperative period is often the gateway to addiction. A national institute on drug abuse found that 75% people entering treatment for opioid use disorder reported that the first opioid that they used was a prescribed opioid. [3] The death rate continues to rise by overdose from synthetic opioids. Through close collaboration with other medical specialities, anaesthesiologists can establish guidelines for opioid prescription, emphasising the appropriate use of non-opioid medications and the consideration of alternative modalities while ensuring effective pain control for patients.

Anaesthesiologists are uniquely positioned to identify early signs of opioid addiction as they regularly interact with patients undergoing surgery who may have a history of opioid use or dependency.

This places them in a prime position to recognise the signs of opioid abuse and take appropriate action.

One of the primary strategies to combat substance abuse is through education and awareness campaigns. Anaesthesiologist administrators can collaborate with local schools, colleges and community organisations to develop comprehensive programmes that educate individuals about the dangers of substance abuse just like Basic Life Support awareness programmes which have become popular in all corners of the society. These initiatives are very informative about the physical, psychological and social consequences of drug addiction.

We as administrators can take assertive measures to implement strict prescription drug monitoring programs. This approach can help prevent the diversion of prescription drugs into the illicit market and reduce the availability of these substances to the common public.

Anaesthesiologist administrators may also actively collaborate with law enforcement agencies to combat drug trafficking and illicit drug manufacturing. By sharing information, providing expert advice, and participating in joint operations, we can help to dismantle the drug networks and disrupt the supply chain. We can provide valuable insights into the potential risks and benefits of various interventions, ensuring that policies are tailored to address the specific needs of patients and healthcare providers. Healthcare providers should be educated about universal precautions while in contact with opioid addicts as they are at risk of hepatitis and HIV infection.

Moreover, anaesthesiologists' involvement in policy making can help bridge the gap between research and practice. By staying up-to-date with the latest scientific advancements, we can translate research findings into practical recommendations, ensuring that policies aim at improving the accessibility and availability of substance abuse treatment.

This involves advocating for the expansion of addiction treatment centres, establishing collaborations with psychiatric specialists and integrating addiction treatment into comprehensive healthcare systems. This evidence-based approach is crucial in combating opioid dependence effectively and minimising the hazardous consequences of opioid use and misuse.

Various other factors which may contribute to the opioid epidemic are unemployment, economic stagnation, social distress, lack of opportunities, substandard living and working conditions in underprivileged strata of society. These may lead to poor mental health and psychiatric disorders like drug dependence. We as healthcare professionals with the help of the Narcotics Control Bureau can make a significant difference in curbing the detrimental impact of addiction and substance abuse on individuals and the society as a whole by sustained, coordinated and vigilant efforts.

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OPIOID OVERDOSE AND ITS ACUTE MANAGEMENT IN INTENSIVE CARE



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Introduction

Opioid such as morphine and fentanyl are strong analgesics frequently used for acute severe and chronic cancer pain management. While opioids are one of the oldest and time-tested analgesics, their serious side effects and addictive potential are concerning. Although sedation and respiratory depression are evident in clinically effective doses, higher doses, chronic cumulative dosage, or acute intoxication can lead to severe respiratory and neurological functional depression threatening life. Nevertheless, such toxicity from chronic consumption is not infrequent from non-medical or unsupervised use, i.e., addictive behaviour. It can be found with heroin, codeine, methadone, tramadol, or similar substances.

Incidence

Opioid overdose-related incidence data in India is not robust, yet data indicates that 2.1% of Indians use opioids; non-prescribed synthetic opioid use prevalence is higher than prescribed ones.[1] Data from the United States of America indicates more than one lakh drug overdose-related deaths in 2021; three-fourths were related to opioid-related deaths. Notably, the incidence has been increasing over the years. The alarming finding was that the age-adjusted mortality increased from 28.3 to 32.4% (14% increase) from 2020 through 2021 [NCHS Data Brief No. 457, December 2022; available from the CDC]. The gravity of the situation is even recognisable because the American Heart Association's cardio-pulmonary Resuscitation guidelines have emphasised it.

Predisposing factors

Several factors are considered as predisposing factors for opioid overdose. Unsupervised use, use after abstinence, higher prescribed dosage, opioid use disorders, concomitant use of other nervous and respiratory system depressants, alcohol addiction, opioid injections, etc., are some of them. Notably, opioid toxicity and overdose can even happen at clinical dosage, especially when the patient has liver and kidney failure or receives prolonged intravenous infusions.

When to suspect opioid overdose?

Opioid overdose should be suspected in any predisposed person presenting with altered (depressed) consciousness or coma, breathing difficulties, and bilateral pinpoint pupils on eye examination. History of addiction, or being on on any prescribed opioids from friends and family, can hint towards the predisposing conditions. The respiratory rate is meagre; however, the depth is usually normal in case of opioid-induced respiratory failure.

However, depending on the predisposing factors, comorbid conditions and acuteness of presentation, the symptoms and signs may vary and hepatic and renal injury-related features, hypothermia, hypoactive bowel or paralytic ileus, needle mark, etc., may also be found. History of opioid tolerance and use of high dosage and even application of multiple transdermal patches are required to be enquired.

Management

Most patients requiring intensive care management are patients presenting with acute toxicity, and the initial management is targeted to stabilise the cardio-respiratory status. The management principle of opioid overdose involves supportive acute and maintenance care and the administration of an antidote. Supportive acute care includes life support care for airway, breathing and circulation. Circulation is often less affected than airway and breathing. Cardiac arrest in opioid overdose patients is usually a result of progressive respiratory failure and metabolic

effects. Basic life support/Advanced cardiac life support should be followed as applicable when a patient is in cardiac arrest. Patients should also be screened for toxicological profiles.

Antidote

Naloxone is a specific antidote to opioids, and it can reverse opioid-induced central nervous system depression and respiratory depression. The fact that it does not significantly impact the cardio-respiratory system in non-opioid cases makes it even more suitable to be administered on-site and without supervision. The initial bolus dose for adults is 0.04 mg. If there is no improvement in respiratory depression, dosage escalation to 2, 4, 10, and 15 mg is advised every 2–3 minutes.[2] Even after a 15 mg bolus, failure to show improvement hints at the cause towards non-opioid origin.[2,3] Once the patient regains spontaneous ventilation, naloxone infusion at a rate of 0.0025–0.16 mg/kg should be started and titrated to reach the goal of >12 breaths per minute for a maximum of 5–10 mg.[4] Although the dose for children is mentioned as 0.01 mg/kg, the dose is usually insufficient to reverse an opioid overdose, and the recommended dose is 0.1 mg/kg for infants and children up to 20kg or five years of age; 2 mg for above five years or more than 20kg weight.[5]

Supportive Management

Artificial respiratory support is frequently required in severe cases. The presence of coma, extreme hypercapnia and no spontaneous respiratory trigger favours invasive ventilation over non-invasive ventilation. Tidal volume selection should be as per the lung protective strategy. High-minute ventilation in the initial part of hypercapnia is often achieved at the cost of a higher respiratory rate, which needs to be titrated as the patient improves after the antidote. Once the patient has a spontaneous breathing rate of more than 10 breaths/minute, a sustained heart rate of >50 beats per minute,

is normothermic and maintains oxygen saturation, weaning from respiratory support can be initiated. They can even be discharged from the intensive care unit .[4] However, some patients may even present with pulmonary oedema, and chronic cases may present with acute respiratory distress syndrome (ARDS). In such cases, oxygenation and positive end-expiratory pressure must be titrated as per ARDS.net protocol. Prone position ventilation may even be required in ARDS cases.

Following naloxone reversal, patients usually have pain that must be managed using a multimodal approach. Renal injury and hepatic injury, if present, also need supportive management.

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ADMINISTRATIVE ASPECTS OF OPIOID MANAGEMENT

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Though we practise opioid-free anaesthesia sometimes, opioids cannot be omitted altogether as they have a role in the entire perioperative period. As we are familiar with their administration (and as I was heading Government Medical Colleges for the past ten years), I want to share my thoughts on the administrative aspects of opioids.

India's approach towards Narcotic Drugs and Psychotropic Substances (NDPS) is enshrined in Article 47 of the Constitution which mandates that the 'State shall endeavour to bring about prohibition of the consumption except for medicinal purposes of intoxicating drinks and of drugs which are injurious to health'. The same principle was also adopted in the three international conventions on drug related

matters. The NDPS Act, 1985 was framed after taking into account India's obligations under the three UN drug Conventions as well as Article 47 of the Constitution.

The NDPS Act divides the powers and responsibility of regulation of licit activities. Section 9 of the Act has listed various activities which the Central Government can, by rules, regulate while section 10 lists various activities that the State Governments can regulate. Thus, we have NDPS Rules of the Central Government and the State NDPS Rules framed by each State Government under the same Act. The NDPS Act has created statutory authorities such as the Narcotics Commissioner (Section 5), the Competent Authority (Section 68D) and the

Administrator (Section 68G). The organisation headed by the Narcotics Commissioner is known as the Central Bureau of Narcotics (CBN).

Another authority called the Narcotics Control Bureau was created through a notification under Section 4 of the Act. Each of these authorities has specified functions.

As per these Rules, the NDPS Act is administered by the Ministry of Finance, Department of Revenue, and Ministry of Social Justice & Empowerment (MSJE). The Narcotics Control Bureau, under the Ministry of Home Affairs (MHA), coordinates actions by various functionaries (Central and State) under the NDPS Act.

The State Governments also have their own Health Departments and Social Welfare Departments each of which has its own set of activities. The Tamil Nadu Narcotic Drugs Rules, 1985, have been framed under powers conferred by section 10 read with section 78 of the Narcotic Drugs and Psychotropic Substances Act 1985 (Central Act 61 of 1985).

As a Narcotic Drug Registration Certificate (NDRC) licence holder for the past 23 years, I would like to mention the procedure for applying for licence in Tamil Nadu. (Other states, it may be similar but they have to contact the respective collectorate/District Magistrate for any clarification)

The government institutions need not have the NDRC for handling narcotic drugs. But National Accreditation Board for Hospitals & Healthcare Providers (NABH) guidelines mandate the same. The individual practitioner should apply for this in the prescribed proforma with necessary enclosures and the prescribed fees. (In Tamil Nadu, 23 years back it was five rupees and a decade back revised to 1000 rupees and two months back revised to 10000 rupees!).

After application, the revenue authorities visit the place and send the report to the Collector/District Magistrate who in turn sanctions the permission with the quantity of each drug. This Certificate would be valid from April 1st to March 31st of the succeeding year and the certificate is to be submitted for renewal every year, two months before expiry.

As per NABH standards, the narcotics have to be stored under 'double lock system' with one key to Staff nurse and the other with the chief of the unit. It has to be checked periodically so that the beneficiary address is maintained in the register which would safeguard us legally in addition to preventing misuse. Even though it is not compulsory, some consultants even maintain the broken ampoules till the next renewal as a measure of double safety.

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OPIOID-BRAIN INTERACTIONS: RECENT UPDATES

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1. Long term exposure to opioid affects the expression of several influx and efflux transporters at the blood brain barrier (BBB), predominantly, ATP-binding cassette (ABC) transporters, which may result in increased central nervous system drug pharmacoresistance.

Chaves C, Remiao F, Cisternino S, Decleves X. Opioids and the Blood-Brain Barrier: A Dynamic Interaction with Consequences on Drug Disposition in Brain. *Curr Neuropharmacol*. 2017 Nov 14;15(8):1156-1173

2. Long-term opioid therapy is shown to be associated with dose-related secondary adrenal insufficiency in over 20% of chronic pain patients and is associated with poor quality of life, fatigue and sexual dysfunction.

Lamprecht A, Sorbello J, Jang C, Torpy DJ, Inder WJ. Secondary adrenal insufficiency and pituitary dysfunction in oral/transdermal opioid users with non-cancer pain. *Eur J Endocrinol*. 2018 Dec 1;179(6):353-362.

3. Prolonged ethanol administration prevents the development of tolerance to morphine-induced respiratory depression.

Hill R, Roberts J, Maclachlan J, Dewey W, Kelly E, Henderson G. Prolonged ethanol administration prevents the development of tolerance to morphine-induced respiratory depression. *Drug Alcohol Depend*. 2019 Dec 1; 205:107674.

4. Radiological evidence suggests that a significant proportion (62.5%) of chronic opioid addict patients might suffer variable degrees of cerebral atrophy.

Singla A, Singh P, Panditrao M, Panditrao MM. Is Chronic Opioid Abuse Associated with Cerebral Atrophy? An Observational Study. *Indian J Crit Care Med*. 2020 Apr;24(4):276-280.

5. Opioid overdose is characterised by respiratory depression, and persistent cerebral hypoxia may result in brain damage and/or neurocognitive impairments.

Winstanley EL, Mahoney JJ 3rd, Castillo F, Comer SD. Neurocognitive impairments and brain abnormalities resulting from opioid-related overdoses: A systematic review. *Drug Alcohol Depend*. 2021 Sep 1; 226:108838.

6. Exposure to benzodiazepines and opioids is associated with recrudescence of previous neurological deficits, though transient and affecting mostly middle-aged patients (45 to 67 years of age).

Rizk AA, Venkatraghavan L, Shankar JJS, Schaller B, Chowdhury T. Reappearance of Neurological Deficits in Pathologic Brain: Are Sedatives and Opioids Culprits? A Systematic Review. *J Neurosurg Anesthesiol*. 2022 Jan 1;34(1):14-20.

7. Opioid-blunted cortisol response to stress is associated with increased negative mood and wanting of social reward.

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8. Corticosteroid sensitisation drives opioid addiction and antagonism of its receptor reduces opioid addiction-like behaviours.

Carmack SA, Vendruscolo JCM, Adrienne McGinn M, Miranda-Barrientos J, Repunte-Canonigo V, Bosse GD, et al. Corticosteroid sensitization drives opioid addiction. *Mol Psychiatry*. 2022 May;27(5):2492-2501.

9. Prenatal opioid exposure is associated with smaller brain volumes in multiple regions.

Merhar SL, Kline JE, Braimah A, Kline-Fath BM, Tkach JA, Altaye M, He L, Parikh NA. Prenatal opioid exposure is associated with smaller brain volumes in multiple regions. *Pediatr Res*. 2021 Aug;90(2):397-402.

10. Structural deficits in emotion- and anxiety-processing brain regions in Opioid-Dependent patients are associated with increased social rejection.

Kiefer F, Hermann D. Higher Social Rejection Sensitivity in Opioid-Dependent Patients Is Related to Smaller Insula Gray Matter Volume: A Voxel-Based Morphometric Study. *Soc Cogn Affect Neurosci*. 2019 Nov 1;14(11):1187-1195

INTRATHECAL OPIOIDS MORE PAIN, LESS GAIN, AT TIMES...!



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It is a common practice to use either morphine or fentanyl as an adjuvant in sub-arachnoid blocks to prolong post-operative analgesia. In more than ten years of our anaesthesia practice, though we have had more of a good experience while using them, we remember two memorable troubling experiences, which make us think now and then and question ourselves:

What if our next patient experiences these particularly troublesome side effects? Is it better not to use any adjuvant rather than using intrathecal opioids...?

The first patient was a young woman, around 25 years of age, who planned for an elective caesarean section to deliver her first baby. She

was particularly excited, thinking she would be a mother within a few hours. As a routine practice, she was administered 2.2 mL bupivacaine 0.5% heavy and 20 µg fentanyl intrathecally. Anaesthesia was adequate, and the baby was delivered within 10 minutes after the onset of the blockade. Happiness was visible on the patient's face immediately after listening to her baby cry.

However, minutes after removing the placenta, she complained of peri-oral itching. We knew the cause and reassured her. It is a routine practice for us to administer intravenous (IV) ondansetron in all patients who are given intrathecal opioids, and we followed the same practice here. Immediately after shifting to the operating room, the patient started complaining of nausea and had an episode of vomiting, too. We reassured her that medicines had been given and that all these side effects would soon subside. The itching increased in intensity, and she complained of nausea almost

every 30 minutes. We added round-the-clock IV ondansetron and paracetamol for pain management. She never complained of bothersome pain, but the itching was unbearable to her so much that she started questioning what we gave her, even though she had never experienced allergic symptoms. The obstetrician, too, questioned us. Although these symptoms did subside after almost 24 hours, we were in a crux during the entire period.

We knew what could have been the reason, and we were compelled to think if spinal anaesthesia with intrathecal fentanyl was right for such a patient who was posted for ambulatory surgery...? All we can say is that though intrathecal opioids remain a popular choice as an adjuvant to prolong analgesia, when side effects such as these occur, they are troublesome for the patients and make us think...is it, not high time that we should change our practice of using intrathecal opioids...?

EDITORIAL COMMENTARY: INTRATHECAL OPIOIDS, ADVERSE EFFECTS AND WAY FORWARD

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Adjuvant use for neuraxial anaesthesia is a common practice, and opioids are one of the frequently used adjuvants. The usual side effects are pruritus, nausea-vomiting, urinary retention, and respiratory depression. There are other side effects, such as somnolence, double-vision, nystagmus, and myoclonus. Delayed respiratory depression leading to respiratory failure and coma, especially in overdose cases after intrathecal administration, is potentially life-threatening. There are even reports of hyperalgesia. In the

era of opioid endemic, when opioid-free anaesthesia is being advocated, avoiding intrathecal opioids as an adjuvant is feasible. There are a few other promising adjuvants; however, they are relatively costly. If opioid avoidance is not feasible, we can at least shift towards opioid agonist-antagonists with potentially fewer side effects. One such drug is nalbuphine, which has comparable analgesic efficacy to morphine but has a better safety profile.[1] Further, although addiction and

abuse are potential, reports on such events are scarce. Interestingly, opioid agonist-antagonist also manages neuraxial morphine-induced 'pruritus'.[2]

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OPIOID-FREE ANAESTHESIA: WALKING A TIGHTROPE

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Introduction: In the current anaesthesia practice, opioids are the mainstay of balanced anaesthesia in most centres worldwide. This is mostly because opioids offer better haemodynamic stability through reduced doses of other agents, such as hypnotics and inhalational agents. Opioid-based anaesthesia, however, has a complex effect on the immune system, affecting cancer recurrence along with noticeable side effects based on its receptor targets. Non-opioid-based anaesthesia or 'Opioid free anaesthesia' (OFA) has been vastly advocated to avoid opioid-related adverse effects. In the OFA technique, intraoperative use of systemic, neuraxial, or intracavitary opioids is completely avoided. However, in 'Opioid Sparing Anaesthesia' (OSA) techniques, minimal opioids can be used as a component of a multimodal regimen.[1]

Evolution of Opioid-Free Anaesthesia: The opioid epidemic is characterised by a surge in opioid overdose related deaths, which has raised serious concerns about the use of opioids

in healthcare. This phenomenon is also known as the "Opioid crisis" and has provoked medical professionals to seek non-opioid alternatives to manage pain effectively while minimising addiction potential and adverse effects. Over the years, opioid consumption has been reduced significantly in intraoperative settings, but effective pain control with a reduction in postoperative opioid consumption is still being scrutinised with OFA/OSA.[1,2].

The concept of multimodal analgesia emerged as a practical approach to pain management in which various medications and techniques are combined to target different pain pathways. These may include non-steroidal anti-inflammatory drugs (NSAIDs), acetaminophen, nerve blocks, and local anaesthetics. However, the overall advantage of these alternate pain management options has often been questioned due to the high cost and variable responses in different individuals. Thus, the OFA regime should be tailored based on the patient's characteristics, ease of use,

availability, and adverse effects of the individual drugs.

Utility of Opioid-free anaesthesia:

The use of OFA/OSA is primal in patients prone to opioid related respiratory complications, such as obstructive sleep apnoea, bariatric surgeries, pancreatic surgeries, and chronic obstructive pulmonary diseases. Opioids can cause complications such as respiratory depression, nausea and vomiting, urinary retention, constipation, delirium, and sedation due to μ , δ , and κ receptor activation. OFA reduces the incidence of these side effects, enhancing patient comfort and satisfaction. OFA lowers the risk of opioid dependence or addiction, vital in combating the opioid crisis. [2,3] Studies have reported that the chronic use of opioids in cancer patients suppresses the immune system by reducing the progenitor cells of lymphocytes and macrophages and by compromising T cell-mediated immunity which can lead to early cancer recurrence.

This immunomodulation by opioids also justifies the need for OFA/OSA in cancer patients.[4] Enhanced recovery after surgery (ERAS) protocols emphasise minimising the use of opioids during and after surgery. These protocols optimise preoperative patient preparation, intraoperative techniques and postoperative care. Opioid-sparing strategies are a core component of ERAS, promoting faster recovery and reduced complications. Opioid-related complications can lead to increased healthcare costs. OFA can help lower these costs by reducing the need for additional treatments and interventions.[1,3]

Challenges of Opioid-Free Anaesthesia

It has often been suggested that OFA may be less productive in managing severe pain experienced during major surgeries. Therefore, in such cases, avoiding opioids may be considered unethical. There is also an issue of awareness if hypnotics are used sparingly. Relative contraindications to OFA include severe coronary artery disease, uncorrected

hypovolaemic shock, and autonomic dysfunction. [3] In perioperative settings, implementing OFA can be a complicated technique involving multiple medications with a cohesive and tailored approach. This complexity may pose challenges for some healthcare settings. Several non-opioid analgesics have shown encouraging results in maintaining analgesia, but their use is guided and limited by the associated side effects.

Non-opioid Analgesics:

The commonly used arsenal of non-opioid analgesics can achieve acceptable results when used in sub-anaesthetic use. These include local anesthetics, clonidine, dexmedetomidine, ketamine, gabapentin, magnesium sulfate, and dexamethasone. Regional anaesthesia and nerve blocks enhance the efficacy of anti-nociception when added with OFA, and it has become more effective with the advent of ultrasound. The duration of analgesia of local anaesthetics in regional anaesthesia can be significantly prolonged by alpha-agonist drugs such as dexmedetomidine, clonidine, and dexamethasone, with negligible side effects. It also spares the postoperative use of opioids for analgesia.

Table. 1 Drugs and dosages used in opioid-free anaesthesia

Drugs	Dose
<i>Induction (boluses)</i>	
Propofol	1 mg/kg
Dexmedetomidine	0.2–0.5 μ g/kg
(In incremental dosages)	
Ketamine	0.25–0.5 mg/kg
Lidocaine	2 mg/kg
Ketorolac	15–30 mg
<i>Maintenance Infusion (“McLott Mix”)[5]</i>	
Dexmedetomidine	0.4 μ g/kg/h
Ketamine	0.3 mg/kg/h
Lidocaine	2 mg /kg/h
Magnesium	10 mg /kg/h

Conclusion:

Tailoring anaesthesia plans to individual patient needs is crucial. Factors such as the type of surgery, patient history, and pain tolerance should be considered when determining the appropriateness of OFA. To ensure safe and effective pain management, anaesthesia providers should receive proper training and education in OFA techniques.

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OPIOIDS IN PALLIATIVE CARE

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Palliative care is a crucial part of integrated, people-centred health services. Relieving serious health-related suffering, be it physical, psychological, social, or spiritual, is a global ethical responsibility. Thus, whether the cause of suffering is cardiovascular disease, cancer, major organ failure, drug-resistant tuberculosis, severe burns, end-stage chronic illness, acute trauma, or extreme frailty of old age, palliative care may be needed and has to be available at all levels of care.

Palliative care is an approach that improves the quality of life of patients with life threatening illnesses and their families through the prevention and relief of suffering by means of early detection, impeccable assessment, and treatment of pain and other problems.

Opioids play a crucial role in palliative care through the management of pain, respiratory distress, chronic cough, etc.[1] The practitioners and the general public might have many

concerns about the use of opioids and most of the times, opioids are used sub-optimally due to the fear of addiction, tolerance, respiratory depression, death etc. So, to allay anxiety, it is wise to discuss and communicate clearly with the patients or their relatives before initiating the treatment. Both written and verbal information on the side effects of morphine use and its management plan should be given.

Pain management is a very important and critical component in palliative care but often it is inadequately addressed and remains a public issue globally. Inadequate knowledge of the mechanism and management of pain leads to inadequate pain relief.

The goal of palliative care is to make the patient pain-free and to provide comfort. Pain is one of the most common treatable conditions in patients with advanced disease. Good pain relief improves the quality of life of

patients and their families who are facing challenges associated with life-threatening illnesses. The quality of life of caregivers improves as well.

The concept of pain as the fifth vital sign was introduced to draw attention to the need to provide adequate pain relief to patients.[2]

The aim of pain management is the prompt relief of pain and the prevention of recurrence. The drug should be taken by the mouth, by the clock, by the ladder, and by the need of the individual. Management of chronic pain should be done as per the World Health Organization step ladder. This is a framework rather than a rigid protocol, allowing considerable flexibility in the choice of drugs. The principles are that the analgesics should be prescribed regularly. Inadequate pain control at one step of the ladder normally requires moving to the next step rather than using an alternative drug of similar potency in the same level.[3] Opioids are used from the second step onwards. Cancer pain typically has an inflammatory component. So, the Palliative Care Formulary (PCF)[6] recommended optimising pain control with acetaminophen, a non-steroidal inflammatory drug (NSAID) and an opioid before introducing an adjuvant.[4] Morphine is the most common drug used. Doses and preparations of opioids to be used and the amount of breakthrough medication should be adjusted carefully.

Regular assessment of the efficacy and side effects should be done. It should be titrated to maximum analgesic effect. Other preferred routes of administration of opioids are patches, nasal sprays, lozenges and subcutaneous injection (continuous is preferred over intermittent) and sometimes neuraxial. Common side effects like nausea, vomiting and drowsiness are self-limiting and treated symptomatically. Constipation is the most common side effect. Patients should be encouraged to increase fluid intake and laxatives should be prescribed prophylactically. Other side effects like respiratory depression, opioid-induced hallucinations and delirium, and opioid-induced myoclonus can be managed by decreasing the dose and symptomatically.

Small doses of morphine reduce dyspnoea in refractory breathlessness.[5,6] Codeine, dextromethorphan and morphine are used to manage chronic cough.[7] Chemotherapy-induced or non-specific diarrhoea is managed with loperamide or codeine.[8,9]

Myths and misconceptions about morphine lead to underutilisation of opioids for which patients continue to suffer unnecessarily. In patients with advanced, progressive conditions, opioids can be used to control acute pain. As acute pain requires rapid action, pain relief is best achieved with four-hourly immediate-release opioid preparations. The European Association of Palliative Care advises that both immediate-release and modified-release preparations can be used for dose titration.[10] National Institute for Health and Care Excellence guidance emphasises patient empowerment and informed choice and suggests that patient preference is important.[11,12] A holistic approach of management targeting all the needs of the patient is required in order to achieve good symptom control. This may include a wide range of pharmacological and non-pharmacological interventions.

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OPIOIDS IN CHRONIC NON CANCER PAIN

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(ISA S 5832)



The International Association for the Study of Pain (IASP) defines it as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage. Pain may be classified as acute or chronic and chronic pain is defined chronologically as pain lasting for 3–6 months and can be refractory to treatment proportional to the duration of pain.[1]

Although research is ongoing to delineate mechanisms of chronic pain conditions, few conditions do not present a specific cause. Also, the management of chronic pain becomes challenging due to changes in both central and peripheral nervous system.

Various pharmacological, and non-pharmacological methods and procedural interventions exist to manage chronic pain. Physical therapy with a specific set of exercises individualised to the patient's need forms a mainstay of the armamentarium against chronic pain. Many medications are used to manage chronic non-cancer pain like non-steroidal anti-inflammatory drugs (NSAIDs), steroids to treat inflammatory pain, tricyclic antidepressants, gabapentinoids to treat neuropathic pain and opioids.

All the medications come with their own set of side effects and efficacy profile and choosing the appropriate agent for the patient's need depends on various factors like type of pain, severity of the pain, onset, duration, associated symptoms, patient comorbidities and compliance.

Opioids are recommended by the World Health Organization for the treatment of cancer pain as a part of the analgesic ladder. However, their use in chronic non-cancer pain is not well established, having a weak recommendation for short-term therapy. According to the latest Centers for Disease Control and Prevention (CDC) guidelines, opioids are not to be used as first-line for chronic pain and are to be considered only if expected benefits for pain and function are anticipated to outweigh risks to the patient. They also recommended starting with immediate-release preparations, at the lowest effective dosage, to carefully weigh benefits and risks and exercise care when changing opioid dosage, prescribe no greater quantity than needed for the expected duration of pain severe enough to require opioids and evaluate benefits and risks with patients within 1–4 weeks of starting opioid therapy or of dosage escalation.[2]

The risks of prescribing opioids for chronic pain are that they can cause physical dependence and tolerance on long-term use. That in turn leads to escalation of subsequent doses, risk of misuse, abuse and addiction. In fact, prescription opioids are being linked as one of the leading causes of addiction worldwide.

Prescription Drug Monitoring Programs (PDMPs) are being initiated in the United States to give a real-time database of dispensing opioids, that is as soon as the pharmacy dispenses a prescription opioid to a particular patient, online entry will be done in the States database and real-time data can be used to track previous prescription histories.

PDMPs are promising tools for healthcare providers to see patients' prescribing histories to inform their prescribing decisions. They are one way to be accountable for prescription opioids.[3]

Personalised strategies need to be researched and developed to predict who will experience chronic pain after injury and who will develop a substance use disorder during long-term opioid therapy. Moreover, strategies are needed to designate responders and non-responders to various pain treatments, including prescription opioid therapy.

Hence, when opioids are prescribed, it is crucial for both the patient and the prescriber to closely monitor their use, assess pain relief, and manage potential side effects and risks. The decision to use opioids for non-cancer pain should be made on a case-by-case basis, taking into account the patient's specific circumstances and the potential for harm and misuse.

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1. Hah J, Mackey S. A review of chronic noncancer pain: epidemiology, assessment, treatment, and future needs. *Focus* 2015;13:267-82.
2. Gupta S, Atcheson R. Opioid and chronic non-cancer pain. *J Anaesthesiol Clinical Pharmacol* 2013;29:6-12.
3. Dowell D, Ragan KR, Jones CM, Baldwin GT, Chou R. CDC clinical practice guideline for prescribing opioids for pain—United States, 2022. *MMWR Recommendations and Reports*. 2022 Nov 11;71(3):1.

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Yuva Parnika (Youth Zone)



YUVA MESSAGES ON OPIOID CRISIS



Dr. Alisha Gupta

Junior Resident

Department of Anaesthesia, Government Medical College, Amritsar

ISA Membership Application No. - AP015953



The growing epidemic of opioid use disorders in India has a significant impact on the quality of life. Examples of opioids include heroin, morphine and synthetic opioids such as oxycodone. Anaesthesiologists can play a central role in addressing this problem and tackling the situation. The patient may present during pre-anaesthetic assessment, at pain clinics or in the intensive care unit (with drug overdose). Detailed history should be taken in a calm and empathetic environment, after gaining trust of the patient and respecting the professional boundaries. Motivation and interviewing techniques, as well as '5A' approach (Ask, Advise, Assess, Assist, Arrange) can be used to counsel the patient regarding myths related to substance use and the social, mental, physical and economic harm it causes. Opioid dependence and withdrawal may pose difficulty during the perioperative period which may necessitate use of higher doses of analgesics. Harm reduction strategies like replacement therapies may be used preoperatively to decrease morbidity and mortality. Patient education and counselling during discharge, and regular follow up play a vital role in preventing relapse and overdose related deaths. Enhanced Recovery After Surgery (ERAS) protocol forms a feasible guide to implement Opioid Free Analgesia (OFA). Use of multimodal analgesia mainly involving non-opioid analgesics and regional anaesthetic techniques is preferred for pain management during perioperative period.

Dr. Aayushi

Second Year Resident

Department of Anaesthesiology, GCS Medical College,

Hospital and Research Centre, Ahmedabad

ISA Membership No. A5374/A



Amid the rising opioid crisis in India, anaesthesiologists play a crucial role. They must conduct thorough preoperative assessments, considering patients' opioid histories and adjust anaesthesia plans for those with opioid tolerance. During the perioperative phase, they face the challenge of managing pain effectively while mitigating opioid-related risks. To reduce the opioid burden, anaesthesiologists can utilise opioid-sparing techniques, raise awareness, collaborate with addiction specialists, and advocate for preoperative and post operative rehabilitation. These measures are essential in addressing India's growing opioid addiction problem.

Dr. Deepa Rani

2nd year PG Student

Anugrah Narayan Magadh Medical College and Hospital,
Gaya, Bihar
ISA No. D2245/A



Opioid disorder affects over 16million people and is responsible for 1,20,000 deaths worldwide annually. A majority of the problem appears to be related to primary pattern drugs such as alcohol, nicotine and opioid. It typically involves periods of exacerbation and remission but vulnerability to relapse never disappears. As anaesthesiologists, we face a wide array of challenges. Patients planned for surgery can be on a wide variety of opioid drugs or withdrawal regimes. For analgesia, titration of doses or abstinence from drug depends on an individualised approach. During the perioperative period, patient can present with marked hypotension due to poor nutritional status and hypovolaemia. For many patients, the perioperative period represents the source of initial exposure. Perioperative physicians are in a unique position to manage patients effectively while simultaneously decreasing the opioid consumption. In my opinion, the preoperative identification of patients who are at risk towards long term opioid use and misuse is very important.

Dr. Archishaa Saxena

2nd year Post Graduate Resident

Department of Anaesthesiology

Netaji Subhash Chandra Bose Medical College, Jabalpur

ISA No. A5070/A



GLOBAL INSIGHT, LOCAL ACTION!

Combatting the opioid crisis demands a comprehensive approach, and the 2021 launch of Nasha Mukta Bharat Abhiyaan in India is a significant milestone. The global opioid epidemic, evident in the US's 2017 public health emergency declaration, provides vital insights.

'Recovery is not a sprint, it's a marathon,' and it hinges on compassionate anaesthesiologists. We must judiciously administer opioids, calculate 24-hour needs accurately, prevent under/over-medication, use non-opioid relief, and employ innovative techniques like 'Opioid-Free Anaesthesia' (OFA) and 'Opioid Sparing Anaesthesia' (OSA) for surgery.

“In pain, we discover resilience, and in recovery, we nurture optimism.”

Dr. Gayathri Gudipati

Second year Anaesthesia resident
Department of Anaesthesiology
Gandhi Medical College,
Secunderabad



The growing menace of opioid-use disorders in India needs immediate attention, as opioids are being abused lately for their euphoric and analgesic effects. Opioids are a vital part of balanced anaesthesia because of their analgesic properties, but on long term use they have the potency for addiction, development of tolerance, dependence and can even lead to withdrawal symptoms. Anaesthesiologists play a pivotal role in the mitigation of this challenge by enhancing pre-operative assessment of patients, identification and education about analgesia along with initiating pre-emptive analgesia. Chronic opioid abuse is also associated with hepatitis, cellulitis, endocarditis, malnutrition etc, each of which poses a unique challenge to the anaesthesiologist intraoperatively. The aim is to prevent withdrawal symptoms caused by excessive sympathetic activity like hypertension, tachycardia, diaphoresis and maintaining equianalgesic serum opioid concentration. Intraoperatively, the use of multi-modal analgesia with non-steroidal anti-inflammatory drugs (NSAIDs), alpha 2 agonists, use of regional anaesthesia and local infiltration wherever possible, helps in reducing the requirements of opioids. Patients addicted to opioids often seem to experience exaggerated post-operative pain; hence prior education, use of alternative non-pharmacological methods such as transcutaneous electric nerve stimulation (TENS), hypnosis, acupuncture, along with continuous regional anaesthesia, by concerted effort in collaboration with multi-disciplinary approach with anaesthesiologists can help in reducing the opioid burden in our society.

Dr. Kshithija S

Senior Resident,
Lokmanya Tilak Municipal Medical
College and General Hospital,
Mumbai, Sion

(ISA No. K3166/A)



The Opioid epidemic in India is a growing concern for the public health sector. In 2004, opioid use was prevalent in 0.7% of the general population. As anaesthesiologists, we use opioids for pain control, which can add to the opioid disorder. Some of the ways to decrease the dependence is by using multimodal analgesia with drugs like acetaminophen, gabapentin, ketamine, magnesium, dexamethasone, non-steroidal anti-inflammatory drugs and lidocaine – called ‘opioid free’ anaesthesia. Also, neuraxial and peripheral nerve blocks can be used with opioid free anaesthesia. Perioperative administration of alpha 2 agonists like clonidine and dexmedetomidine, has shown to reduce postoperative opioid consumption. Few of these techniques can help reduce the opioid burden from the anaesthesiologists’ end.

Dr Sonia Naorem

2nd year post graduate trainee

Regional Institute of Medical
Sciences, Imphal, Manipur

(ISA No. S7693/A)



Inadequate regulations of opioid prescriptions have led to the growing trend of opioid misuse and addictions in the country. Opioid addicts present to an anaesthesiologist for elective or emergency surgery with an array of challenges such as increased perioperative analgesic requirements, withdrawal and difficult intravenous access. Preoperative psychiatric consultation and the application of adequate universal precautions are necessary for all opioid addicts. Intra operatively opioid free anaesthesia or regional anaesthesia is preferred when feasible. Multimodal analgesia approach and regional analgesia can be successfully used for post operative pain management. We, as anaesthesiologists, can educate about the harms of opioid addiction and help them in deaddiction.

Dr. MAYANGLAMBAM SUSHMITA DEVI

First year PG student in Anaesthesiology,
Regional Institute of Medical Sciences, Imphal,
Manipur.

(ISA Membership application no. AP015986)



The opioid crisis in India demands immediate attention. Inadequate preoperative assessment and perioperative opioid management can worsen the situation. Anaesthesiologists must take a lead in comprehensive patient evaluations, identifying at-risk individuals and promoting responsible opioid use and non-opioid pain relief. Patients with opioid use disorders often experience tolerance, anxiety and heightened pain sensitivity. Collecting detailed drug use history and assessing related medical issues is crucial. Embracing opioid-sparing techniques like "Opioid-Free Anaesthesia," "Total Intravenous Anaesthesia," peripheral nerve blocks and multimodal analgesia can significantly reduce opioid use. Collaboration, advocacy for stricter regulations and research are vital steps to combat opioid addiction and improve perioperative care safety in India.

Dr. JANISH ANIRUDHAN

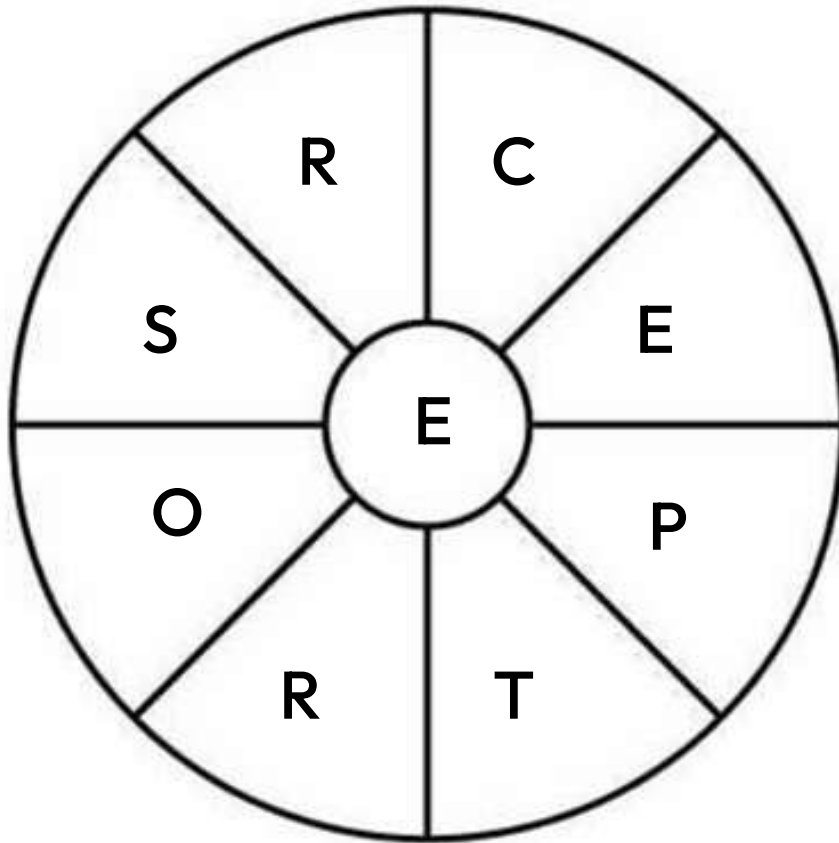
Senior Resident in Anaesthesia
MES Medical College and Hospital
Perinthalmanna, Malappuram, Kerala
(ISA No. J1379/A)



The growing menace of opioid disorders in India is a significant challenge to the preoperative assessment and postoperative management. Adolescents are more vulnerable to develop opioid use disorders. This is because of the increased prescription of opioids for pain relief, inadequate regulation of controlled substance abuse, mental health issues leading to self-medication with opioids. Anaesthesiologists can contribute significantly by identifying 'at risk' patients, promoting opioid sparing techniques and opioid-free anaesthesia. These practices can minimise the risk of opioid addiction, improve surgical outcomes and enhance recovery. In conclusion, by taking these measures, anaesthesiologists can play a pivotal role in mitigating the opioid addiction burden in India and safeguarding patients from its detrimental effects.

SPIN THE WORD WHEEL

Dr. PARUL JINDAL
PROFESSOR,
DEPT OF ANAESTHESIA,
HIMS, SRHU, DEHRADUN



The centre Letter has to be used in all the words.
Only 6 to 9 letters words are acceptable

INTERPRETATION

>20 words ... Pain-free

15-25 Mild pain

12-18 Moderate pain

CROSSWORD (On OPIOIDS)

Dr Parul Jindal

Professor

Department of Anaesthesiology

HIMS, SRHU, Dehradun

ISA no. P1190

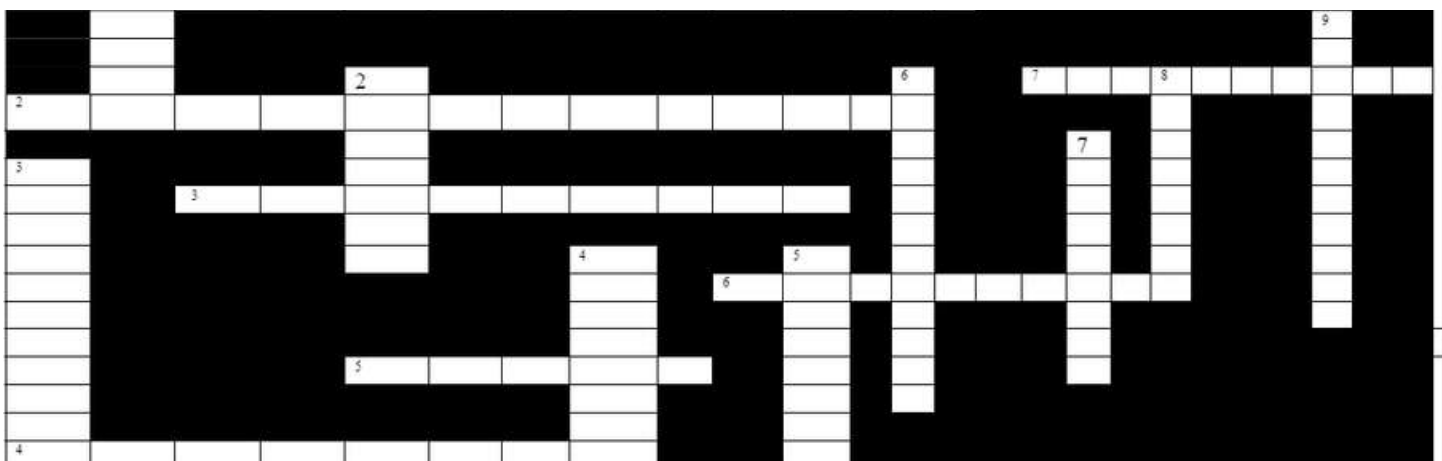


Down:

1. Common street name of U-47700 used by opioid addicts. (5)
2. $C_{18}H_{21}NO_3$ is the chemical formula for which opioid? (7)
3. An agonist-antagonist opioid that resembles pentazocine. (11)
4. Which opium advocate stated that "without opium, the healing art would cease to exist" (8)
5. A native plant of central and south Asia. (8)
6. Which opioid has a clearance of nearly 3 litres per minute. (12)
7. A new μ -selective oral peripheral opioid antagonist, approved by FDA for paralytic ileus. (9)
8. Heroin addicts who died suddenly after heroin injection, the concentration of was elevated. (8)
9. This opioid belongs to benzomorphan series. (11)

Across

1. The precursor acting on DOP receptor. (13)
2. Prescribed as dilaudid. (13)
3. He isolated morphine from opium in 1803. (9)
4. An alcoholic tincture of opium. (8)
5. This physician emphasised caution in use of opium but felt it was almost a cure for all. (5)
6. It reduces the pleasure associated with ethanol intoxication. (10)
7. Cause minimal respiratory depression because of its selectivity for μ_1 receptors. (10)



DOWN:

- ## ACROSS

- [illegible]

Yuva Anaesthesia Quiz

Dr. Tanmay Tiwari

King George's Medical University, Lucknow,

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9452526270

ISA Number- T0620



Q.1 Paired cartilages present in human larynx are all except?

- a) Arytenoids b) Thyroid
- c) Corniculate d) Cuneiform

Q.2 Adequate Dermatomal level required for CAESAREAN SECTION under regional anesthesia is?

- a) T6 b) T8
- c) T4 d) T5

Q.3 The context-sensitive half-time for propofol for infusions of up to 8 hours is?

- a) Less than 40 minutes.
- b) 60 minutes
- c) More than 120 minutes.
- d) Less than 120 minutes but more than 60 minutes.

Q.4 The initial solution of propofol, released in 1977, that was withdrawn because of anaphylactic reactions was known as?

- a) Cremophor EL b) Fospropofol
- c) Lusedra d) None of the above

Q.5 Indian Journal of Anaesthesia (IJA), the official journal of ISA was first published in which year?

- a) 1951
- b) 1953
- c) 1955
- d) 1956

Q.6 Internationally accepted guidelines for reporting CASE REPORTS for Enhancing the Quality and Transparency Of Health Research (EQUATOR) is known as?

- a) STROBE b) CONSORT
- c) CARE d) STARD

Q.7 Total daily CSF production under normal condition is?

- a) 150 ml b) 250 ml
- c) 550 ml d) 450 ml

Q.8 Under normal circumstances the Cerebral Blood Flow is approximately?

- a) 150 mL/100 g/min b) 50 mL/100 g/min
- c) 200 mL/100 g/min d) 100 mL/100 g/min

Q.10 According to Modified Bromage Scale, Inability to raise extended leg; able to move knees and feet is?

- a) 0 b) 1
- c) 2 d) 3

Q.11 The VORTEX APPROACH, a 'cognitive aid' designed to facilitate management of the unanticipated difficult airway was developed by?

- a) Dr. Imran Ahmed b) Dr. Anil Patel
- c) Dr. Nicholas Chrimes d) Dr. Philip Peng

Q.12 The MODIFIED MALLAMPATI CLASSIFICATION for assessment of airway was described by?

- a) Dr. Sheshagiri Mallampati
- b) Samsoon and Young
- c) None of the above
- d) both of above

Q.13 CSF pressure at lumbosacral level is?

- a) 15 cm of water
- b) 20 cm of water
- c) 25 cm of water
- d) 30 cm of water

Q.14 The preferred pathway for passage of nasal airway devices during airway management is?

- a) The inferior meatus, between the inferior turbinate and the floor of the nasal cavity.
- b) The middle meatus
- c) Any of the above
- d) None of the above

Q.15 Sellick manoeuvre, involves the application of pressure at the cricoid ring to occlude the upper esophagus, thereby preventing the regurgitation of gastric contents into the pharynx. The recommended force in newtons (N) to be applied in adults for rapid sequence induction (RSI) is?

- a) 20N when awake; increased to 40N after loss of consciousness
- b) 10N when awake; increased to 30N after loss of consciousness
- c) 20N when awake; increased to 30N after loss of consciousness
- d) 40N when awake; increased to 50N after loss of consciousness.

Answers for Yuva Anaesthesia Quiz

A.1
b) Thyroid Millers anesthesia 9th edition 1378

A.2
c) Millers 9th edition page 1423

A.3
a) Reference Millers 9th Edition (page 640)

A.4 a) Cremophor EL, Reference Millers 9th Edition (page 639)

A.5
b) 1953 Reference Page 38, 9th edition Miller

A.6
c) CARE

A.7
d) Millers 9th edition page 295

A.8
b) 50 mL/100 g/min, Millers 9th edition page 294

A.9d) Interspinous ligament Millers 9th edition page 1431

A.10 b) 1, Millers 9th edition page 1432, Modified Bromage Scale

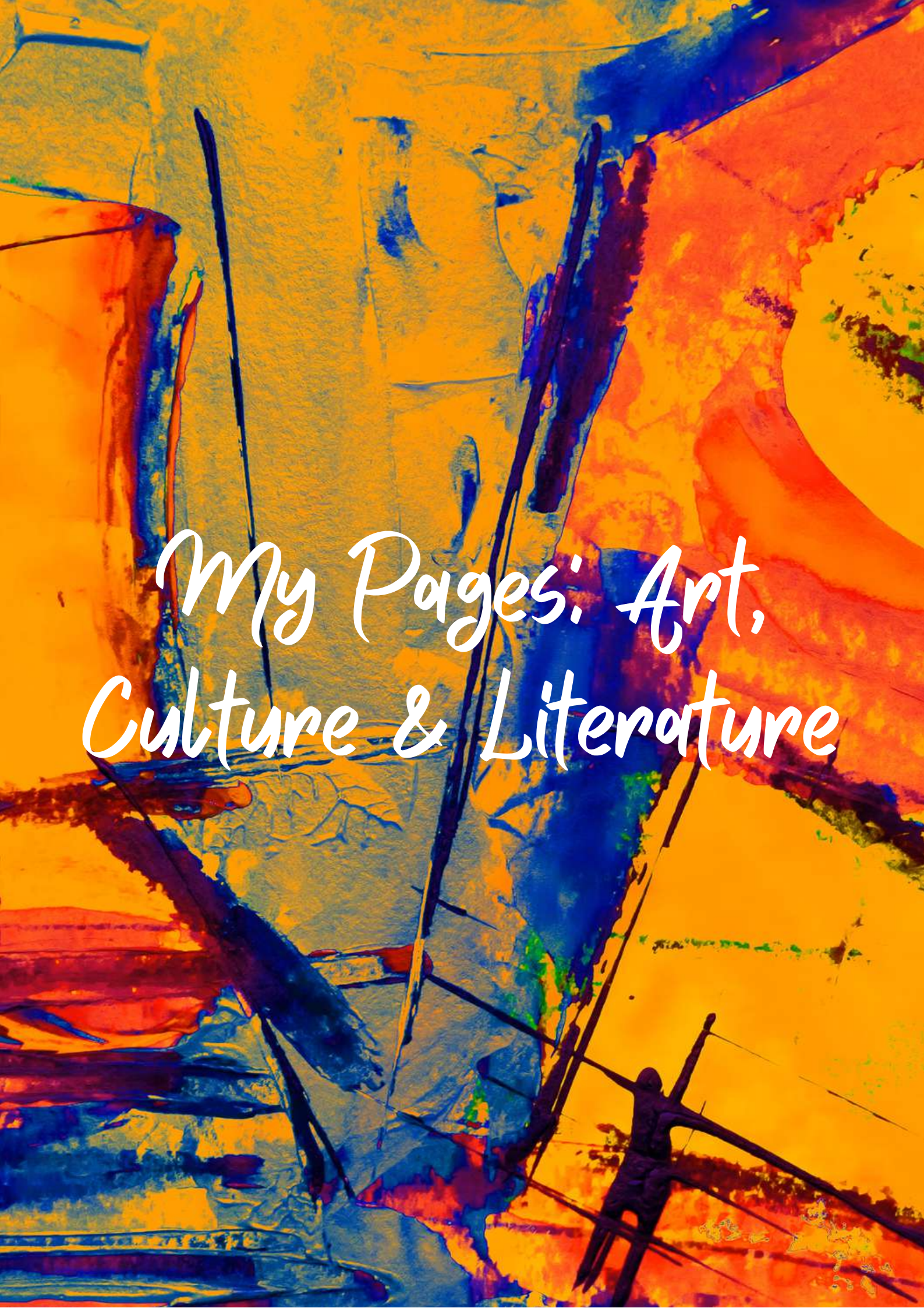
A.11 c) Dr. Nicholas Chimes, Millers 9th edition 1374

A.12
b) Samsoon and Young, Millers 9th edition 1379 page

A.13
Answer a) Millers 9th edition page 1424

A.14a) Millers 9th edition page 1376.

A.15 b) Millers 9th edition page 1382.



My Pages: Art, Culture & Literature

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Morton in modern OT

(A fictional story involving a real person)

Morton exhales as he gets off the Time Machine and says 'Thank you H G Wells! How nice of you to lend me this. I won't be long' He is in a modern operation theatre now. As he approaches the patient, he notices several machines, flashing screens and beeps. He wonders how on earth tubular wires have got anything to do with healing. The Surgical removal of a swelling on the right side of the neck is about to start.

He then sees the anaesthetist holding a mask over his patient's face and murmurs to himself 'This mask looks really nice. But how do they pour those letheon drops? He looks around and looks hard for the magic potion. 'Oh no! Where is the ETHER? Did it vaporise for good? And what is this SEVOFLURANE? Thank God, Nitrous oxide is still here' He settles down a bit and starts admiring the neatness of the room. Not a single wooden furniture, no viewing balcony either. Morton watches with awe as the anaesthetist intubates and connects the breathing circuits. More sounds and beeps. He now turns his attention to the surgeon who starts working on the patient. Mesmerised by the array of instruments that lay before him, he exclaims 'You should have been here, my dear Dr Warren! I am feeling déjà vu right now'

The procedure is going on smoothly, everyone is doing their jobs dutifully. Morton wonders why are these people so tight lipped. They could use some Nitrous. Just then the anaesthetist takes something out from his pocket, taps few times on it and smiles. 'Thank God, at least he is using a pocket nitrous dispenser. Wish I too had one like this. My back still hurts' says Morton and rubs his shoulders.

The procedure is over and Morton positions himself next to the anaesthetist. The patient wakes up and says he didn't feel a thing. More déjà vu. 'Bingo!' says Morton in admiration 'You are majestic. Your recipe looks very balanced, Mister. Just don't share it with anybody!' Although he missed Ether dearly, Morton is satisfied that people haven't forgotten the basics.

As they are winding up, he hears the anaesthetist saying, 'I get peanuts for my experience' The ever vigilant Morton says with a smirk, 'This happens all the time my good friend. Go to your Congress and demand your royalty. Just don't go on a snowy, windy night. Once I had a.....dreadful evening out there!' With this he activates his time machine and flies out of the future.

A DRAMA IN REAL LIFE

DR. CHANDRASEKHAR KRISHNAMURTI

Retired Professor in Anaesthesiology,
NRIIMS, Visakhapatnam
(ISA No. S0468)



A POET INDUCED

I was doing my third year post graduation attachment at the Naval Command Hospital Asvini at Colaba in 1979-80.

An executive branch smart Lieutenant Commander was referred for assessment scheduled for a 'below the belt surgery'. Observing his slightly nervous disposition, I explained the procedure for a spinal, and stopped midway, noticing his acute nervous tics and widening palpebral fissure. I explained general anesthesia and that's the one he desired as did his wife. The whole procedure went uneventfully. I used thiopentone for induction and succinylcholine, gallamine sequence for muscle relaxation employing an 8.0 mm internal diameter cuffed red rubber endotracheal tube. Reversal was easy and the officer recovered well and was discharged on 4 weeks sick leave by the medical board and doctors involved.

One fine morning, about two months following the above case, the same officer breezed into my office with a beaming wife in tow. I noticed his slightly delighted countenance and indelicately asked him if he was for a repeat surgery! He just waved his hands to negate that and his Adam's apple was bobbing up and down as he gulped air and tried to tell me something. Noticing his predicament, the officer's piped in and said that, since his anesthetic experience, he had turned abruptly very poetic. He had scribbled several notebooks with extempore verses. His supportive wife was ecstatic at the transformation, as executive officers are generally overwhelmed with responsibilities. He had just submitted an anthology of his poems for publication. And he had come to seek my blessings and best wishes. I brushed aside the narrative saying that the transient hyperoxia had probably purged some sluggish flow in his temporal cortex. But, even today, I am at a loss to explain this transition and appeal to my Indian Society of Anaesthesiologists (ISA) fellows to contribute regularly to our lovely newsletter, especially drama in real life, to add variety.

A TRYST WITH DR. ZAHID AHMED

Consultant Anaesthesiologist & Intensivist
Shifaa Hospital, Bengaluru
ISA No. Z 0039



Hello Dr. Zahid! Warm Greetings from the editorial team of VAPOUR!

Your interest seems to be out of this world! Your interest is in the stars, galaxies and the solar system. This interview is surely going to be an interesting one!

1) Tell us something about your hobby in Astronomy.

Amateur Astronomy is all about studying the cosmos. It includes the solar system, the stars, galaxies and nebulae. One can do visual astronomy where you directly look into the sky with the help of gadgets like binoculars or telescopes and enjoy the beauty of these amazing creations. Astrophotography is the art and science of capturing faint distant objects with special telescopes and cameras followed by post-processing with the dedicated software to produce a beautiful image for the on-looker.

2) How did you develop an interest in astronomy?

My interest in Astronomy was mainly because of the scientific temper inculcated into us by my high school teacher Mr. Albert Venny who had shown us the planet Saturn and the craters on the Moon way back in 1992 with the telescope possessed by the school. Subsequently, I nurtured the hobby after being able to buy a telescope of my own in 2013 with which I started doing some basic observations. My interest in Astronomy gathered pace in the post-COVID-19 period when I came across people with the same interest, and I added more gadgets to my armamentarium with

which I started imaging the amazing objects in the universe.

3) Did you formally study Astronomy?

No, I am an amateur astronomer. I have not gained any formal education but had the opportunity to learn a lot of things by interacting with people of the same interest on the internet.

4) What kind of gadgets do you require to use? Any specifications?

I do visual astronomy with a pair of binoculars and a reflector telescope with a 6-inch diameter aperture. I do astrophotography with a refractor telescope which is attached to a special Astro-imaging camera. There is no end to gadgets in Astronomy and it is quite an expensive hobby.

5) What is the best time to study the sky?

The best time to do planetary, lunar and deep sky observations is after sunset when the sky is dark enough. The best season to study the sky is from November to April as the skies are quite clear with minimum clouds. The ideal place is one with minimum light pollution like the countryside where there are less of street lights especially the LED lights. The most sought-after place by both professional and amateur astronomers to study the sky and take spectacular images is Ladakh wherein there is a dark sky reserve.

6) Does the sky condition impact your hobby?

Definitely yes. I cannot do it on rainy and cloudy days. The sky must be crystal clear without much light pollution for a satisfactory night worthy of observation. Nevertheless, it is always tempting to look in between the clouds even on cloudy nights not to miss any interesting celestial object in the sky.

7) Do you use any special protection for the eyes while making observations?

Unless while looking at the solar eclipse, special protection is not required for the eyes. Having said that, any telescope as a matter of fact should not be pointed to the Sun without a solar filter as it can cause damage to the retina as well as the equipment.

8) As children, we all have done star gazing. Has your perspective changed now?

I am humbled by the vastness of the sky. It is always thrilling to look at the stars whether be it with naked eyes or with the telescope. The universe is amazing, it makes one feel so small and humble. It takes me to a different spiritual plane reminding me of the greatness of the creator who has sculpted this mysterious cosmos.

9) Please tell us about some of your interesting observations.

All observations are interesting but the one worth a special mention was the green comet in January 2023 wherein I was photographing a comet for the very first time. The rest in the list are the Moon, Saturn, Jupiter, Orion Nebula, various star clusters and galaxies.

10) How do you maintain a balance between your profession and hobby?

As doctors in a stressful profession like Anaesthesiology wherein we are on our toes most of the time, nurturing this hobby of Astronomy has played a vital role in relieving my stress levels. The vastness and the beauty of the cosmos take me to a different level and I feel relaxed whenever I look at the stars. Even on most tiring days, it is always rewarding to squeeze a few moments on the rooftop with my equipment for a blissful evening.

11) What is your advice to your fellow anaesthesiologists regarding hobbies?

Hobbies are stress busters for doctors, they help cope up with burnout and work-related pressure. As we are quite busy most of the times, we hardly get time for ourselves. The same monotonous chores of the operation theatre are a root cause for increasing stress and underlying depression amongst anaesthesiologists which can lead to suicidal tendencies. So, if one is occupied in something interesting, it is a form of relaxation to the mind. Many doctors have various hobbies like wildlife photography, philately, painting and so on. It is for one to decide what suits best to your taste and give it a try. It adds value to your life and makes it more interesting. One can prevent stress and burnout with these hobbies.

12) What are your plans regarding your hobby for the future?

I want to upgrade my existing equipment and improve my skills of imaging the sky. Want to impart the knowledge of Astronomy to my fellow doctors by delivering lectures and conducting online meetings. It is my long term dream to set up an observatory with an advanced telescope in a farm house far away from the city lights in absolute darkness to enjoy the secrets of the universe.

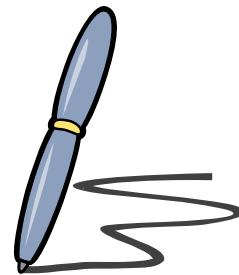
For some people sky is not the limit, and you are one of them!

Thank You.

Editorial team, VAPOUR



INVITATION TO CONTRIBUTE



‘Vapour’, the official newsletter of the Indian Society of Anaesthesiologists invites contribution of articles originally written by ISA members (Life and associate). The articles can be in the form of interesting case reports for discussion, articles on topics of current clinical relevance, photo-essays, articles on medicolegal /health/ financial/extracurricular issues of interest to the anaesthesiologists. Original literary works such as poems, funny cartoons or paintings on topics of anaesthesia are also welcome. Information about extraordinary achievements /experiences of ISA members, book publication can be sent.

The articles should be brief and written in font Times New Roman 12-14 size and presented in Microsoft office word document (rtf/doc files). Plagiarism and violation of copyrights should be strictly avoided. The articles should be e-mailed to isanhqvapour@yahoo.com with a covering letter addressed to the Honorary Secretary ISA National.

Dr Sukhminder Jit Singh Bajwa

Honorary Secretary ISA National & Editor-in-Chief

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