

the
FAMILY
DOCTOR

THE OFFICIAL JOURNAL OF IMA COLLEGE OF GENERAL PRACTITIONERS



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Content

Messages:

Dean CGP
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Review Articles

Dr. Annith Kumar V.M,
MS(OG), MRCOG (UK), DRM (Germany)
Postdoctoral Fellowship in Reproductive Medicine
Page No: 5 to 8

Dr. Tushar Vishvasrao Patil , M.D., D.M
Consultant Medical Oncologist and Hematoncologist
Page No: 9 to 11

Symptom Analysis of Anxiety and Depression

Dr. Mahesh R.Desai, M.D
Consultant Psychiatrist, Director SOCH Institute of Mental Health
Page No: 12 to 16

Social Topic

VIOLENCE AGAINST DOCTORS , WHY? WHEN? HOW TO PREVENT

Dr Laksheswar Bhuyan, MS(Surgery) ,
Chairman, Assam Chapter of Association of Surgeons of India,
Vice President, IMA, Assam Branch, Tezpur
Page No: 17 to 27

Public Articles

Water That Matters

Dr.R.Anburajan , Hon. Joint Secretary , IMA CGP HQs
Page No: 28 to 31

ECG - RATE & RHYTHM ANALYSIS

Dr. R. RAMESH, KAUVERY HEARTCITY, TRICHY
Page No: 32 to 37

Message from - Dean, IMA CGP



I feel proud and delighted on the occasion of releasing the first issue of 'FAMILY PHYSICIAN' the journal of IMA College of General Practitioners', for the year 202-22. The family practice is the foundation of the medical service given by all the doctors. IMA CGP has always strived to make this foundation a sturdy, multifaceted and updated.

This year we will be releasing this journal every month and to keep up with the ongoing trend of World Wide Web revolution, the magazine will be presented as an e-edition and will be circulated to all the members all over India.

I take this opportunity to invite all the great scholars of IMA CGP from all over the nation, all the state faculties of IMA CGP to contribute your own pearls of wisdom and make this mission of knowledge a thriving one. I am sure it will make this publication a true representation of IMA pan India.

I am grateful to the National President **Dr. Sahajanand Prasad Singh**, Hon. Secretary General **Dr. Jayesh Lele** for giving us this opportunity for dispersal of these capsulated insights for all the members of IMA CGP. I must congratulate **Dr. Ravisankar T.N.** and **Dr. Yasodha** for accepting and carrying out the challenge to publish this periodical in an innovative and brilliant way. I am indebted for the rock solid support given in all the activities by **Dr. C. Anbarasu**, the Secretary IMA CGP, **Dr. S. Rekha** and **Dr R.Anburajan**, the Joint Secretaries.

I wish a great success to the Team IMA CGP for this new confront.

A handwritten signature in black ink, appearing to read 'Avinash Bhondwe'. The signature is fluid and cursive.

Dr. Avinash Bhondwe
Dean, IMA CGP

CGP Secretary Message



Dear, Family Physicians,

I take pleasure to present the first issue of THE FAMILY DOCTOR journal for this IMA year. A journal is the communication with the members and we have envisaged an index journal for the Family Physician of our country. An Editorial team with members from all over the country is formed but we still need some more who can contribute for the growth of the journal. We have proposed to publish in print for once in three months and online on all the months. CGP activities at local branch and at State level will also be published, hence request all to send the details to the CGP mail for publication. Lets join together to bring back the reputation and recognition for the FAMILY PHYSICIAN with knowledge and skill. A good and knowledgeable Family Physician can provide affordable and accessible QUALITY health care for our citizens.



Dr.C.Anbarasu
Hon. Secretary, IMA CGP

Sex Hormones in Meat and Dairy Products

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Introduction

Hormones in milk and dairy goods have been a topic of debate for decades. Consumers have grown more proactive in studying the relationship between nutrition and health in recent years, and awareness of food production issues has expanded dramatically.

Milk and other dairy products such as cheese, butter, and yoghurt are relatively popular in the Western diet, and their importance is growing throughout Asia.

While hormones in dairy foods are naturally occurring, they do have biological impacts on people and animals. Because sex hormones are a natural part of animal metabolism, they will be present in any product derived from an animal. Consumption of these hormones can have a variety of impacts, ranging from growth promotion to carcinogenic effects.

Hormones in Food: What's the Deal?

Hormones are utilised in animal-based food production for a variety of reasons. Some such reasons are:

Young animals gain weight faster

Reduced waiting time

Reduction in the average amount of feed required by an animal

Increased milk production

Increased overall efficiency and profitability of meat and dairy industries.

The Food and Drug Administration (FDA) has authorised six distinct types of hormones for use in food production in the United States. These include the naturally occurring female sex hormones estradiol and progesterone, natural male sex hormone testosterone, and three man-made compounds zeranol, trenbolone acetate and melengesterol acetate.

Milk Contains Sex Hormones

The bulk of hormones present in milk are thought to be transmitted by diffusion. Prolactin and oestrogen are two of the most essential hormones contained in milk and other dairy products.

- Progesterones
- Corticoids
- Androgens

Humans have no discernible influence on recombinant bovine growth hormone (rBGH), a synthetic cow hormone that promotes milk output. Manipulation of growth hormones, on the other hand, may result in an increase in the production of other hormones like insulin-like growth factor-1 (IGF-1).

Insulin-like growth factor-1 is a polypeptide of 70 amino acids. It is mostly generated by the mammary glands and the liver, but it is synthesised by all tissues. The anti-apoptotic effects of IGF-1 and its anabolic signals have been connected to the growth of malignancies.

IGF-1 levels beyond a certain threshold have been linked to an increased risk of cancers of the colon, pancreatic, endometrial, breast, and prostate. It's worth noting that a high amount of IGF, regardless of its source, can raise the risk of certain tumours.

The most significant endogenous sex hormones are oestrogen and progesterone in women and testosterone in males.

Cow's milk contains both oestrogen and progesterone, and oestrogen and progesterone levels are greater in commercial dairy cows because they are frequently pregnant shortly after giving birth to a calf. As a result, the oestrogen and progesterone levels in the milk they produce may be much greater.

Meat Products Containing Sex Hormones

Meat production relies heavily on growth hormones. They are used to regulate an animal's development, the quantity of feed it consumes, the generation of milk, as well as the production of fat and muscle. Hormone treatment can improve the value of meat and reduce the cost of raising animals.

Exogenous Sex Hormones

Exogenous Sex Hormones are hormones that are produced outside of the body.

Exogenous sex hormones are synthetic substances that replicate the effects of naturally occurring sex hormones. They can be used to assist a person become pregnant by encouraging ovulation. Because several exogenous hormones have been shown to cause cancer in humans, their presence in food is closely regulated or, in some circumstances, outright outlawed. Milk from cows that have recently been treated with exogenous hormones, for example, cannot be utilised for commercial purposes.

Sex Hormones in Meat and Dairy Products: What Are the Risks?

Diethylstilbestrol (DES), a synthetic oestrogen medicine intended to prevent miscarriages, was shown to raise the incidence of vaginal cancer in the daughters of women who used it, and it was prohibited in 1960. A lifetime of oestrogen exposure has been linked to a higher risk of breast cancer.

Meat-based growth hormones may have a significant impact on prepubescent youngsters. According to a research, if a youngster isn't yet producing growth hormones, consuming these hormones through meat or dairy products can cause the child to reach puberty seven months sooner. However, because early puberty is also linked to obesity, lack of exercise and many other reasons there isn't a conclusive correlation to confirm this.

Summary

There is no conclusive evidence that sex and growth hormones present in meat and dairy products cause cancer or premature puberty in children.

Many of the hormones contained in these products are naturally existing in both the animal and the human consumer, and it's difficult to tell the difference between synthetic and naturally occurring hormones in meat or dairy samples.

Furthermore, the effects of eating meat and dairy products that contain growth and sex hormones might be modest and take a long time to manifest.

The quantity of hormones that enter a person's bloodstream is likewise insignificant when compared to the amount of hormones that a person naturally produces on a daily basis. However, the European Union has outlawed all hormones in cattle, while Japan, Canada, Australia, and New Zealand have prohibited rBGH.

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Special Article for February - Cancer Awareness Month

Tumor Markers

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INTRODUCTION

Tumor markers are biochemical indicators of presence of a tumor. It is a molecule that can be detected in plasma and body fluids. Tumor markers are measurable biochemicals that are associated with a malignancy. They may either be produced by tumor cells (tumor-derived) or by the body in response to tumor cell (tumor-associated). They are then released into the circulation and can be measured in the blood. Tumor markers are not the primary modalities for cancer diagnosis rather they can be used as laboratory test to support the diagnosis.

USES

They are usually imperfect as screening tests for detection of occult (hidden) cancers but once a particular tumor has been found using a marker, the marker may be a way of monitoring the success (or failure) of treatment.

Rising levels of tumor markers on test results may suggest non responding disease or relapse and can be worrisome. At the same time one thing to remember that other noncancerous diseases can cause test results to vary.

Advantages of using tumor markers

1. Screening and early detection of cancer

Screening refers to looking for cancer in people who have no symptoms of the disease, while early detection is finding cancer at an early stage. Although tumor markers were first developed to test for cancer in people without symptoms, very few tumor markers have been found to be helpful in this way because most tumor markers have not been shown to detect cancer much earlier than they would have been found otherwise.

2. Aid in the diagnosis of cancer

Cancer is usually diagnosed by a biopsy and tumor markers are usually not used to diagnose cancer. However, tumor markers can help determine if a cancer is likely in some patients. It can

also help diagnose the origin of cancer in patients presenting with advanced widespread disease.

3. Determine response to therapy

If initial tumor marker level goes down with treatment, it indicates that the treatment is working. On the other hand, if the marker level rises, then the treatment is probably not working and change of treatment needs to be considered.

4. Indicate relapse during follow-up period

Some tumor markers can be useful to pick up a biochemical relapse once treatment has been completed and with no evidence of residual cancer left. These include prostate-specific antigen (for prostate cancer), human chorionic gonadotropin (for gestational trophoblastic tumors and germ cell tumors of ovaries and testicles), and cancer 125 (for epithelial ovarian cancer).

DISADVANTAGES

1. Differences in sample collection, handling or storage, and profiling techniques among various research sites may change the protein profile obtained from a given sample. Therefore, standardization issues regarding biological variation, preanalytical variables, and analytical variability must be tackled before standard values can be established.

A major problem in the identification of cancer biomarkers is the very low concentrations of markers obtained from tissues with small, early-stage cancer lesions.

2. Other problems are as follows:

- Lack of reliability
- Proteins and/or modified proteins may vary among individuals, between cell types, and even within the same cell under different stimuli or different disease states. Hence, it is difficult to know which value obtained from an individual is accurate and what value in different patients indicates a problem
- Normal cells as well as cancer cells can produce most tumor markers
- Tumor markers are not always present in early-stage cancers
- 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.

EXAMPLES OF TUMOR MARKERS USED COMMONLY IN CANCER

Carcinoembryonic antigen (CEA)

- It is produced by embryonic tissue of gut, pancreas, and liver
- It is a complex glycoprotein elaborated by many different neoplasms
- Serum level is positive in:
 - 1.60–90% - Colorectal carcinoma
 - 2.50–80% - Pancreatic carcinoma
 - 3.25–50% - Gastric and breast carcinoma.
- CEA is elevated in many benign disorders:
 - 1.Alcoholic cirrhosis
 - 2.Hepatitis
 - 3.Ulcerative colitis
 - 4.CEA assays lack both sensitivity and specificity required for detection of early cancers.

2.Prostate-specific antigen and prostate-specific membrane antigen

- They detect prostate cancer.

3.Human chorionic gonadotropins

- They detect testicular tumors.

4.Cancer 125

- It detects ovarian cancer.

5. ca 19.9

- It detect pancreatic cancer

PRECAUTIONS WHILE USE OF TUMOR MARKERS IN CANCER

No good consensus amongst medical community about the value of most tumor or markers

- They lack specificity and accuracy
- False-positives can cause distress and fear
- It is not yet known if there is saving of life or money with testing
- Currently, much controversy surrounds the issue of mass screening for cancer using tumor marker

Symptom Analysis of Anxiety and Depression

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Anxiety and Depression are two of the commonest psychiatric disorders. The largest reported survey on mental morbidity – National Mental Health Survey, found that the weighted lifetime prevalence of ‘any mental morbidity’ was estimated at 13.67% and lifetime prevalence of Depressive disorders was found to be around 5.25 %.(Gautham et al., 2020).

The regions of the brain associated with these conditions are the prefrontal cortex, amygdala, hippocampus, cingulate cortex and parts of thalamus. These are common in both disorders. As such, we often find overlap of symptoms.

The **Classical presentation of Anxiety Disorders** is as follows:

Subjective experience is that of a diffuse, unpleasant, vague sense of apprehension, usually accompanied by physical and cognitive symptoms.

Physical symptoms:

- Palpitations
- Difficulty in Breathing
- Tremulousness
- Excessive Sweating
- Fidgetiness or sense of muscular tension
- Tightness in the chest and stomach discomfort.

Cognitive symptoms:

- Feeling “nervous” or “frightened”
- Rapid thoughts which may be disorganized in severe anxiety
- Overestimating the danger they are facing(eg. Feeling that they’re going to die during panic attack)
- Sense of confusion
- Difficulty in concentrating

If these symptoms are episodic, short lasting and very severe with sense of impending doom, it is known as a Panic attack and if such attacks occur frequently, it is Panic Disorder. They may or may not be associated with a specific stimulus or situation.

On the other hand, anxiety symptoms may be present throughout the day, not associated with any specific stimulus or situation. This is known as Generalized Anxiety Disorder.

However if anxiety features occur in context of a particular situation or stimulus, they constitute Phobic Disorders.

Eg. Agoraphobia: anxiety features in places where getting out/escape is difficult like crowded places, public transport etc.

Specific Phobia is another major group of phobias. There are hundreds of named Phobias. Some of the common ones are as follows.

- Social anxiety/phobia: fear of scrutiny/being judged or embarrassing oneself in front of others in social situations
- Animals and insects: eg phobia of Cats,Dogs,Snakes etc.
- Environment: Fear of heights (altophobia)
- Blood or Needle Phobia

A person with phobia or situational anxiety usually also develops apprehension of another anxiety episode in presence of stimulus/situation and attempts to avoid the situation is common.

The Classical presentation of Depressive Episodes is as follows:

They usually present with one or more of following symptoms:

- Persistent Low Mood: It is different from usual sadness. Despite different events throughout the day that can generate different emotions, a person's mood stays low.
- Lack of Interest: lack of interest in almost all activities including previously pleasurable activities. In more severe form there's loss of ability to feel pleasure ie Anhedonia.
- Psychomotor Retardation/Agitation: Sluggishness in mental and physical activities is psychomotor retardation. Some people feel restless and agitated.
- Change in Appetite: Majority describe loss of appetite but some report increase in appetite. Some even report increased munching, stress eating, midnight snacking.
- Changes in Weight: Usually weight loss of about 5% in a month but some report weight gain.
- Changes in Sleep: classically early morning awakening is considered pathognomonic of depression but many report nonrestorative sleep or difficulty falling asleep. Sometimes patients also report increased sleep.
- Physical symptoms: like headache, GI upset, bodyache are common in depression. Most of the times, investigations are either normal or symptoms are disproportionate to abnormalities in the report. There are different ways to look at this. Neuroinflammatory hypotheses look at it as part of low grade inflammation.
- Changes in Will to Live: It can range from absence of death wish, to passive death wish to active suicidal ideation.
- Easy Irritability
- Easy Fatigability: Not being able to do as much work as before. Even daily chores feel exhausting.

A depressed mood and a loss of interest or pleasure are considered the key symptoms of depression. If these symptoms persist for two weeks or more, it is considered Major Depressive Episode or Depression.

Changes in symptomatology across lifespan:

- School refusal and excessive clinging to parents may be symptoms of depression in children.
- Poor academic performance, substance abuse, deviant behaviour, truancy, and running away may be symptoms of depression in adolescents.
- Depression in older persons appears more often with somatic complaints compared to younger age groups.

Sometimes Depression may be associated with psychotic features too. Mostly it is in the form of a delusion. eg. Delusion that person is guilty and deserves punishment.

Approach and Management

- Rule out other medical causes Eg. Thyroid disorders, endocrinopathies, nutritional deficiencies, other noncommunicable diseases, infections, CNS disorders etc.
- Anxiety and depressive features are frequent comorbidities with common noncommunicable diseases like DM,HTN and have bidirectional impact on prognosis. Better control of these is very helpful for recovery from depression and anxiety.
- Brief counselling may help the patient. However many if not most cases need or benefit from pharmacotherapy.
- While all medications(including non-psychiatric) have some or the other side effects, most are benign. And like other medicines, many times the risk-benefit ratio is in favour of medicines.
- There's significant overlap in pharmacological management of anxiety and depressive features. Various medicines are available like SSRIs, SNRIs, TCAs etc.

General rules of thumb are:

- anxious or agitated patients do well with agents with sedative profile eg sertraline, paroxetine, amitriptyline and venlafaxine.
- Lethargic patients with psychomotor retardation do well with activating agents like fluoxetine and desvenlafaxine.
- Clonazepam and related benzodiazepines are good as rescue or short term medicines in case of anxiety disorders and in depressed patients with insomnia.

Referral to psychiatrist:

- Actively suicidal case
- Marked agitation or behavioural disturbance
- Diagnostic query
- Inadequate response to treatment
- Need for specialized management eg. A case of bipolar depression, need for psychotherapy, need for in-patient management.

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VIOLENCE AGAINST DOCTORS

WHY? WHEN? HOW TO PREVENT?

Dr Laksheswar Bhuyan, MS(Surgery)

Chairman, Assam Chapter of Association of Surgeons of India

Vice President, IMA, Assam Branch, Tezpur

Violence against Doctors at their work place is not a new Phenomenon. However, in recent times, reports of doctors getting abused/threshed by patient, their relatives and/ some miscreants in and around who shows that they are the only people concern about humanity. The news of mishandling the doctors are making headlines around the world and are shared extensively on social media with some unethical, unjustified comments as if they won the world. Lately almost all doctors are worried about violence at his/her work place and very few are trained to avoid or deal with such situation.

Violence against doctor/hospital goes viral instantly through social media now a days. It is not a localized issue of Indian subcontinent. It is prevalent all over the world almost with the same vigor. Date back to the 1980s in USA 57% doctors/health care staff working in emergency care have been threatened with weapons. 52% of doctors reported some kind of violence in UK. In Asia countries like China, Israel, Pakistan, Bangladesh, India the violence rate against doctors are higher than the Western Countries. Indian Medical Association's study shows that up to 75% of doctors in India have faced some kind of violence at their work place at any time of his/her medical practice. The incidence of violence in some other countries in the world are shown as follows-Kuwait-86%, Israel-54-79%, USA-75%, United Kingdom-65%, South Africa-64%, Thailand-54%, Brazil-47%. The violence against doctors is not an isolated problem of any country. It is a global phenomenon and a concern to the medical profession as well as to the society as a whole.

The WMA (World Medical Association) strongly condemn any sort of violence against health professionals. There is rising trend globally for violence against doctors and health care facilities. The violence against doctors and nurses is basically a violence against patients. The recent incidents in India highlights the gravity of the situation. The WMA urges to all sections of society not to tolerate such acts. We (WMA) support the Indian Medical Association to curb the menace and request all the member organisations to advocate for safe working environment for those who work in health care. Zero tolerance to any kind of violence in Health Care.

Types of Violence:

The violence is may be on the professionals or on the profession. It may be

- Telephonic threats
- Intimidation
- Verbal abuse (mostly)
- Physical assault but not injurious assault
- Physical assault causing simple or grievous injury
- Murder
- Vandalism
- Arson
- Legal/Administrative
- Economic/Cyber bullying
- Image damage/Clinical Autonomy

After Effects of Violence

- Psychological issues- Depression, Insomnia
- Post traumatic stress, fear, anxiety-leading to absenteeism
- Lost clinics
- Injury cause physically handicapped
- Lost lives
- Tarnished their reputation as a professional

Perpetrators

- Individual
- Mobs
- Media-Portrayal/Shows/Media trials/TRP
- Government- Administrative
- Politicians
- Black mailers

Usual Place of Violence

- Casualty- Bleeding patient, Serious moribund patient, Delay in Attention
- ICU- Death, Denying Entry Passes
- OT- Death in OT, Repeated delay or postponement of surgery, Wrong Surgery

- Wards- Denial of access to Case papers/Records, no proper communication by the health staff with the patient/relatives/visitors (as they feel)

ETIOLOGY OF VIOLENCE

- Lack of communication between doctor and patient
- Falling trust in doctor – patient relationship
- Poor image of Medical Profession
- Over reaction by patient or relatives
- Inadequate Public Health Care Facilities
- Blatant Privatization of Medical Education, Corporatization of Health Care- Insurance Model
- Increased Medical Literacy/Illiteracy
- Changing perception of Profession, Rising Health Care Cost
- Lack of faith in Judicial System and Police
- Mobocracy (small time 'Leaders'), Desire to achieve 2 minutes fame
- Politics, Religion or Cast based and other such politics
- Lack of reliable quick Redressal Mechanism
- Unethical Practice, Private secret settlement

POLICY FACTORS

- Indian health care spending is close to 2% of the total budget which is a very meagre amount.
- Poor health infrastructure in government sector.
- Human resource as health care provider is not at par with seeking health care personal. Approximately one lakh doctors are working in Govt. sector as opposed to nine lakh doctors in the country.
- Poor working environment, long working hours which makes them susceptible of making mistake leading to violence.
- Poor insurance penetration in small hospital set up.
- Non availability of medicines and other accessories even emergency medicines in Govt. sector lead to a chaotic situation and in turn violence starts.

SOCIAL FACTORS

Traditionally in India, the medical professionals have been treated with respect by the society. With the advent of modern medicine, the cost of health care has increased globally. Unrealistic expectation of poorly educated Indian community that more money could save life i.e. better outcome expected even for risky procedure. With money no one can buy life – it is the ultimate truth. Common men believe that doctor advise expensive tests and medicines to earn money. In reality doctors receive 15-20% of total bill of the hospital in private sector.

The public feels that media shows so many doctors being abused/beaten up every day and perpetrators are never shown punished- so they taken up the matter into their hands when they feel cheated by doctors. To get rid of hospital bills which is genuinely incurred by the hospital authority the patient party creates a dubious scene and draw the public attention to get the sympathy. However present impression of profit making of few doctors in the profession has crippled the image of the profession.

PROFESSIONAL FACTORS

As part of medical curriculum all doctors are taught clinical behavior but not all are taught empathy. In clinical practice doctor-patient communication involving receiving an explanation about the disease, likely duration of treatment, its probable outcome, the lack of unmet expectations and empathy are associated with overall patient satisfaction with the services. Many a time, the patient and their relatives does not comprehend the gravity of the situation and expect better chance of complete recovery due to improper explanation by treating doctor- that is our one of the short coming.

This may be due to scarcity of doctors and health care facilities in country like ours. Recent statistics shows in India out of 151 doctors, evaluating work place violence only six of them received some formal training in effective communication and five of them belonged to psychiatric department where it is part of their curriculum. So, need for improving communication between patient and doctor by imparting training to the current generation doctors.

LOCAL FACTORS

The mob mentality of the particular group of local people is one of the major factors of initiation of violence in a particular area. The so-called public leaders/politicians play an important role to initiate violence against doctors just draw the sympathy of the public. Death of a patient is often used by local leader/local politician as means of their popularity by abusing the doctors and other health care staff. The local goons show their strength by physically assaulting health care provider, ransacking and damaging hospital property. This is usually happening in hospital set up where all facilities are not available. It is almost commonly occurring in Govt. hospitals, community health centers, primary health centers where there is complete lack of security.

RISK FACTORS FOR VIOLENCE AGAINST DOCTORS

The health care professionals are at higher risk of violence in their work place among all professionals. They are four times more likely to be injured compared to other professionals. They always deal with a person when he/she is in a stressful and emotionally taxing situation.

A study of risk factors associated with violence against doctors found that young doctors and female doctors face more physical violence. Department of O&G reported highest rates of violence followed by Medicine department with allied specialties and Department of Surgery with allied specialties. The verbal violence is most common form of violence. In Emergency Department 100% doctors reported some kind of verbal violence. The top received cause for violence to be long waiting period, delay in medical attention and denial of admission etc.

PRVENTIION OF VIOLENCE AGAINST DOCTORS

Due to raising trend of violence against doctors, they are reluctant to take up serious patients which compromises the health care delivery. So, it is the urgent need of the hour to make the health care facility safe for doctors and other health care providers. To achieve this, it needs multiprong approaches at various levels by the government, media, medical professionals and society as a whole.

RESPONSIBILITY OF GOVERNMENT

In India health budget spending is meagre as compared to Western Country. As sayings goes "HEALTH IS WEALTH: the policy makers need to understand the overall health of people contributes to the efficiency of the work force in turn contributing to the growth of the economy of the country. The country like ours the health budget spending is almost 2% of the total budget which needs to increased to 5-10% that may improve the Govt. Health Infrastructures and human resources to be increased so that doctor-patient ratio would be at per. More health budget spending translates more facilities which should be clearly understand. Death of a patient during treatment FIR lodged for murder, culpable homicide etc. by relatives needs to be discouraged by making legal provisions deterring relatives from doing so unless evidence is present.

The state government must enforce a Strong Law to stop violence against doctors. Such law first came into existence in Andhra Pradesh in 2007 during the tenure of Chief Minister YS Rajsekhar Reddy who was a doctor himself. The law stated that any violence against doctors would be treated as nonbailable offence with a penalty of up to Rs 50,000/- and a jail term of up to three years. This was followed by states such as Delhi, Haryana, Rajasthan, Tamil Nadu, Odisha and others making such act for prevention of violence against doctors.

ASSAM MEDICARE SERVICE PERSONS AND MEDICARE SERVICE INSTITUTIONS (PREVENTION OF VIOLENCE AND DAMAGE TO PROPERTY) ACT 2011.

Enactment Date-04-02-2013, Act Year-2013

- Whoever commits any offence in section-3, shall be punished with imprisonment for a term which may extend to three years and with fine which may extend to fifty thousand rupees.
- Any offence punishable under section-3, shall be cognizable and nonbailable.
- In addition to the punishment provided in section-3, the court shall, when passing judgement, order the accused person to pay by way of compensation, such amount as may be specified in order for the damage or loss cause to the property of Medicare Service Institution.

Provided that in case of damage or loss to any property of Medicare service institution, the quantum of compensation shall not be less than the amount of purchase price of such property.

RESPONSIBILITY OF INSTITUTION

Violence occurs despite all precautions. It is the moral obligation of institution to protect doctors and other staff and to give a congenial environment to work. A standard pertaining procedure may be developed for such situation lie code purple used world wide to alert medical staff to potential violence, which includes following measures:

- Announcement on hospital public address system, giving the exact location of violence to disseminate the information. A distinct siren may also be installed to alert everyone in case of violence occurs. (But in most Govt. sector hospitals have no public address system)
- Security staff to respond immediately and assist if needed.
- All the staff except that of Intensive Care Unit and Operation Theatre to come to aid and form a human chain around the professional under threat. The personnel involved in the chain need to remain calm and avoid any altercation which may escalate the situation.
- A senior member of staff not involved in treatment may try to communicate with the patient's relatives and try to de-escalate the situation.
- All the staff members to practice restraint and not to lose their control.
- Once the situation is under control, an announcement on public address system should be made.
- The practice of this drill should be done monthly in every medical establishment.
- All medical establishment should have closed circuit televisions installed.
- It should be mandatory to report to the police about the violence.

We hope no more doctors lose their lives to violence before action is initiated by organisations and government.

RESPONSIBILITIES OF DOCTORS

Modern medicine is reaching new frontiers but at the same time a negative public perception of doctors is leading to an increase in litigations.

Should follow cardinal principle “do not over reach” i.e., do not treat beyond the scope of one’s training and facilities to prevent both violence and litigations against themselves.

All doctors should ensure that valid and informed consent is taken properly before starting the treatment and not just considered a formality.

Extra efforts should be taken to explain the condition of the patient to the relatives because health care literacy is low in the country.

Thus, training an effective communication needs to be imparted to every medical professional which should include assertiveness training, refusal skills, anger management and stress management.

Apart from these steps it is important to be vigilant and look for early signs of violence by using the STAMP approach as follows-

S- Staring is an early indicator of potential violence

T- Tone and volume of voice have been associated with violent episodes. Most instances involved raised voice and yelling but some also involved sarcastic and caustic replies.

A- Anxiety in many people who attend emergency department can make the visit stressful.

Doctor should intervene before the anxiety reaches dangerous level, but some times patient’s anxiety does not escalate to violence.

M- Mumbling is a clue for violence as it suggests mounting frustration.

P- Pacing by relatives has been observed in instances that resulted in violence and is seen as an indication of mounting agitation.

RESPONSIBILITIES OF MEDIA

Doctors are almost portrayed negatively by the media. There are sensational news reports of death and sting operations against doctors. Media should understand that the practice of medicine is not a black and white subject. The diagnosis of a patient is essentially a hypothetico-deductive process. With appearance of new evidence through investigations and knowledge, the diagnosis of some cases continued to be questioned and refined. Whatever diagnosis be there is always a risk of negative outcome. The doctors can’t be held accountable for every death that occurs in hospital on account of negligence.

PATIENT FAMILY AND SOCIETY AT LARGE SHOULD DO TO PREVENT VIOLENCE

There is immense responsibility of patient, their relatives and society at large to prevent this violence. Disputes of any sorts between patient and hospitals or doctors are not to be sorted out through violence, but in a civilized society there are avenues of dispute redressal which should be used. The modern medicine is neither cheap nor 100% effective in curing the disease in all cases. There should not be under expectation on the out come of the treatment in a serious case. Some patient will make it and some will not. This should be clearly understood. There should be a clear understanding that vandalism and violence in a hospital or clinic is a criminal offence and any civilized society should have low/zero tolerance for such heinous acts. Hardly social leaders are seen to condemn such violence today and surprisingly some times they try to justify the situation and/or provoke the situation.

WHAT DOCTORS SHOULD DO TO AVOID VIOLENCE

A doctors should understand some of those patient related characteristics which may be associated with violence.

Heightened anxiety about the disease as well as finance needed for its treatment seen to be an important component of initiation of violence. The doctors should train himself/herself for anxiety alleviation techniques.

Bereavement, young patient under serious condition, only earning member in the family and only child with serious disease evolve emotional out burst which may quickly end in violence. The doctors should have better training to tackle these situations. Long waiting hours and doctors' behavior towards patient and relatives are important contributors to aggression and need to addressed by the doctors as much as possible.

Doctors probably should try to optimize and reduce long waiting periods for the patient in the waiting rooms and try to improve patient contact as much as possible. Use of digital technology, mobile phone may be useful to achieve this issue. Long queues in the hospital, lack of communication from the doctors and opaque billing system are important predictors of violence in India. Both digital and mobile technology can substantially help in this area.

WHAT HOSPITAL SHOULD DO?

Hospital can do much to reduce violence against health care professionals.

- Improvement of services in a global fashion
- Employment of adequate number of doctors and other staffs and other steps to ease the rush of patients and long waiting hours.
- Use computer and internet technology.

- Hospital security should be strengthened and it needs to be properly interlocked with nearby police station.
- No arms ammunition by patient or their relatives or visitors should be allowed inside the hospital.
- There should be transparency on rates of different investigations, rent and other expenses in the hospital.
- There should be proper complaint redressal system in the hospital.
- Visitors to be restricted and on definite time and more attention to be given by the security personnel in that hour.

FACTORS ASSOCIATED WITH VIOLENCE AGAINST HEALTH WORKERS IN INDIA

- Absence of post graduate training in Emergency Medicine in India.
- Poor quality of Emergency Care in most of the hospitals.
- Poor Grievance Redressal Mechanism.
- Poor Pre-hospital Emergency Net Work.
- Lack of Emergency Resources i.e., blood, laboratory services, work force, relevant drugs etc.
- Overwhelm Emergency Intake Capacity.
- Most of the Nursing homes/Private sectors run emergency services without Proper Training and Setup.
- Mistaken public belief that hospital should give Services Free/Almost free.
- Increasing Intolerance, Fearlessness against rule of law and Restlessness amongst youths.
- High Work Load of Government Hospitals.
- Lack of Civic Responsibility in the public.

Political Interference in in Hospital Affairs.

Absence of Legislation/Reluctance of its application for a Strong Law against Violence to Health Care Workers.

Negative Image of Doctors portrayed in Media.

Unrestricted Public Access to all areas in Government Hospitals with Over Crowding.

Lack of Security, Surveillance and Mob Preventive Drills in the Hospitals.

CONCLUSION:

The incidence of Violence against Doctors and other Health Worker Staffs in India seems to be increasing day by day. It is sure that as doctor and hospital staff have got tremendous responsibility to the profession as they are dealing with human lives. But it is also more sure that similarly responsibilities also have to be borne by patient and their relatives, hospital

authorities, government and political parties, law maintaining machineries, medias and most predominantly general public as a whole to see that health care improves and violence against health care providers is strongly dealt with. There is a need for detailed in depth study across the country to understand the prevalence, its nature and regional differences in violence perpetrated against health care providers. An ongoing study by Indian Medical Association reports that 75% of doctors in India have faced violence at work place at some point of time in their life and most of the time, it is verbal abuse but physical assault causing simple to grievous injuries even death is recorded. It is some what alarming situation and high time to give a serious thought on it and appropriate measures to take as early as possible to keep the morals of medical professionals high. The emergency and ICU are the most vulnerable venues and visiting hours is the most vulnerable time for violence. There is no reason to wait to stop the violence against doctors and other health staffs and take preventive measures which is the responsibilities of all stake holders and society at large.



Some Pictures of Violence against Doctors



Some Pictures of Protest of Violence against Doctors

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WATER THAT MATTERS

“A world without girl is as impossible as a world without water”

Dr. R. Anburajan

Hon. Joint Secretary,
IMA CGP HQs

Water and You

As a medical doctor it is the purpose our Practice simply to show how our patients can become **strong, healthy, energetic, disease resistant, younger-looking, wiser, smarter, and better looking**. Studies now show that we can reduce our risk of deadly diseases such as heart disease by 80 percent or more and cancer by 60 percent or more – simply by leading a healthy life.

How? One of which is to drink two to three litres of clean water each day. One such example a woman had suffered from migraine headaches that left her unable to function and care for her family. She had been to neurologists and doctors and tried dozens of medications, but they all failed to help her. Over time her headaches had grown worse, and even the strongest pain medicines available did not help to alleviate them. This woman had been mildly dehydrated most of her life and never realized the cure for her headaches was as close as her glass of water. After taking adequate water every day as per my advice she felt very much better even with simple medicines.

Why Water?

Water is the single most important nutrient for our bodies. It is involved in every function of our bodies. One can live five to seven weeks without food, but the average adult can last no more than five days without water. **Some people water their house plants more than they do their own bodies!**

We must know that ...

- Our body is about 70 percent water
- Our muscles are about 75 percent water
- Our brain cells are about 85 percent water
- Our blood is approximately 82 percent water
- Even our bones are approximately 25 percent water

Many go for caffeinated or sugar-based drink to another. Little do they know that all that caffeine and sugar are actually stealing water from their bodies, doing them more harm than good?

In my practice I see people all the time whose bodies are starved for clean, natural water, are neglecting the most basic pillar of health, and their bodies and minds pay a terrible price. By the time I see them they often suffer from headaches, back pain, arthritis, skin problems, digestion problems, and other ailments.

I often tell patients that when they have a headache, they don't have a Paracetamol deficiency. When they have joint pain, they don't have any Diclofenac deficiency. When they have heart-burn, they don't have an Antacid deficiency, and if they are depressed, they don't have an ALPRAZOLAM deficiency. In each of these cases, their body is often crying out for water. People tend to lose excess weight, their arthritis problems disappear, and their high blood pressure begins to return to normal levels.

The average adult male's body is **62-65 percent water**, compared to women, who have **51-55 percent water**. Men have more water in their bodies because they generally have more muscle mass, whereas women have a higher percentage of body fat.

What happens when somebody don't drink water?

Water plays a vital role in regulating body temperature, transporting nutrients and oxygen to cells, removing waste, cushioning joints, and protecting organs and tissues.

- Water is the main lubricant in the joint spaces and helps prevent arthritis and back pain.
- Water increases the efficiency of the immune system
- Water prevents clogging of arteries in the heart and brain, and thus helps reduce the risk of heart attack and stroke.
- Water is directly connected to brain function – it is needed for the efficient manufacture of neurotransmitters, including serotonin. It is needed for the production of hormones made by the brain, such as melatonin; it can prevent attention deficit disorder (ADD); and it improves our attention span.
- Water helps prevent memory loss as we age, reducing the risk of degenerative diseases such as Alzheimer's disease, multiple sclerosis, Parkinson's disease, and Lou Gehrig's disease.

- Water affects our appearance, making our skin smoother and giving it sparkling luster; it also reduces the effects of aging.

Vital Organs “the Starting Five”

▶ **Brain** ▶ **Heart** ▶ **Lungs** ▶ **Liver** ▶ **Kidneys**

The body keeps these organs well hydrated with water, lest you suffer serious consequences. But as a result, non vital organs may suffer. In the body’s ranking system, body parts like the skin, gastrointestinal (GI) tract, and joints are less important, and so symptoms of dehydration usually show up there first.

Joint pains and arthritis

Joint cartilage provides the smooth surface so that joints can glide easily during movement. Cartilage is about five times slicker than ice, and that cartilage is made up of 80 percent water. If the cartilage is robbed of fluid, the joints will eventually creak, crack and pop, like a door on a rusty hinge. The increased friction causes them to degenerate quicker, eventually leading to arthritis

High blood pressure

When the body is mildly dehydrated, it may restrict the flow of blood to non vital areas and concentrate it instead on the vital organs. The immediate result: your blood pressure may rise. But, drink enough water, and constricted blood vessels usually begin to open up, lowering blood pressure. I had few patients lower their blood pressure to normal with an adequate intake of water. Of course, weight loss, stress reduction, and a sensible diet are also important for lowering blood pressure.

Digestion Problems

Water is the hero of the gastrointestinal tract. It is the basis of every fluid your body needs for digestion, including saliva, bile, stomach acid, pancreatic juices, and even the mucus that lines our GI tract. Without adequate water, the whole digestive system goes into emergency mode, and you may get heartburn, indigestion, constipation, haemorrhoids, and even ulcers.

The mucous layer in your stomach is 98 percent water. It protects against stomach acid, and it contains bicarbonate, which neutralizes stomach acid. When your body has adequate water, the mucous layer is thick, preventing the acid from burning the stomach lining. Without a thick mucous layer, you may experience chronic burning whenever you eat.

But, water keeps the digestive juices supplied and helps your body create all the acid it needs. That acid is your friend in this case, because it kills the bacteria in the digestive system, which improve the digestion.

Asthma

Your bronchial tubes need adequate hydration to prevent constriction. People with asthma should slightly increase their salt intake, provided they don't have high blood pressure or heart disease. Sodium is a natural "Mucus breaker", and it is normally secreted to make mucus "disposable". That is why phlegm is salty when it comes in contact with the tongue. Salt is needed to break up the mucus in the lungs and render it watery for its expulsion from the airways.

"Health is cheap; disease is expensive"

Some of the symptoms of inadequate water intake may include headaches, back pain, joint aches, dry skin, allergies, heartburn, constipation, and memory loss.

We must also know about the conditions which need Water restriction like CCF, CKD, CLD, etc.

ECG - RATE & RHYTHM ANALYSIS

Dr. R. RAMESH

KAUVERY HEARTCITY, TRICHY

INTRODUCTION:

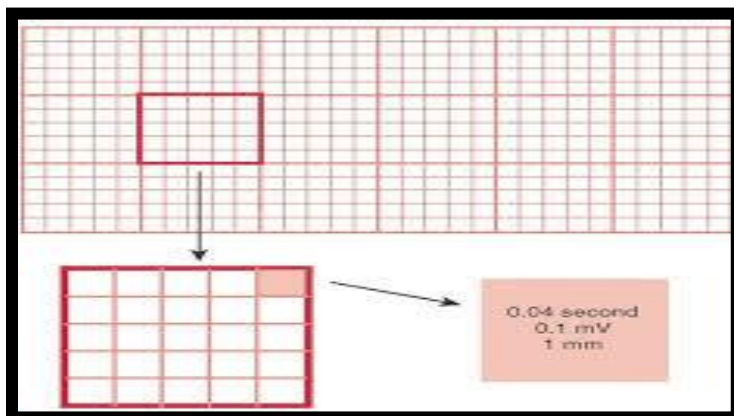
Before I start penning this small article, I Salute my Guru Dr. M. Chenniappan from whom I learnt ECG reading. I must also profusely thank Dr. T.N.Ravisankar for giving me this opportunity.

When we see an ECG, the first thing we try to read is the Rate and Rhythm analysis, after checking the Standardization. The rate and rhythm are ideally checked in the Rhythm strip, which would be at the bottom of the ECG paper, in any computerized ECG report.

The rate and the rhythm analysis are based on certain calculations and measurements in the ECG paper. Hence, let us first try to understand how the ECG paper is constructed.

ECG PAPER :

The ECG paper has multiple squares. There are BIG squares (thick border) and inside each BIG square, there are five small squares vertically and five small squares horizontally, each measuring 1 mm in both directions. Vertically it measures the amplitude (height) of the various waves in mm and horizontally it measures the duration in milli seconds (the time taken for the depolarization and depolarization) . One small square horizontally measures 0.04 Secs (40 m.secs).



STANDARDISATION:

All over the world, the ECG machines are standardized to run at a particular speed and produce deflections on the ECG paper at a particular voltage calibration. Normally, 1 millivolt of electricity will produce 10 mm of deflection on the ECG paper - shown as a vertical bar in any ECG before the ECG tracings, occupying exactly 10 mm, ie., 10 small squares vertically.

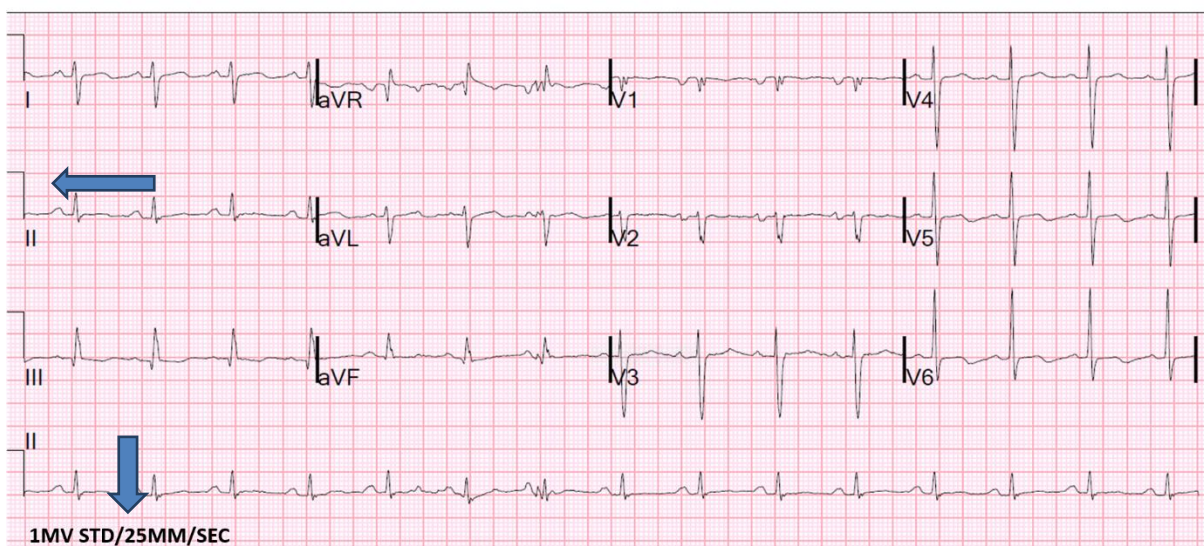
Similarly, the machine is calibrated to run at a fixed speed on 25 mm / sec, which will be printed at the bottom of the ECG paper.

All the calculations and measurements in ECG are correct, if only the ECG machine works as per the specified normal standardization. In certain situations, like when the complexes are too big or small, the standardization can be manually increased to double or half standardization as the case may be. Similarly, when we want to expand the complexes to read it better, we can manually increase the speed to double normal, ie., 50 mm/sec.

If the normal standardisation is changed to either double or half, we need to apply that correction factor in the calculations and measurements.

Hence, for Rate calculation, we must first ensure that the ECG is recorded in normal standard speed of 25mm/sec.

50Y ; ONE EPISODE OF LOC;



HEART RATE CALCULATION:

Ideally, the heart rate is calculated in the rhythm strip. Alternatively, we can choose any one particular lead in which the qRs wave is nicely seen. We should not start calculating from one lead and extend to the next adjacent lead.

When we say Heart rate, we mean Ventricular rate only., ie., qRs rate per minute. We know that qRs wave in the ECG represents Ventricular Depolarisation, which in turn is the Ventricular contraction.

There are two methods of calculating the heart rate - 1.approximate rate calculation and 2.accurate rate calculation.

APPROXIMATE HEART RATE CALCULATION:

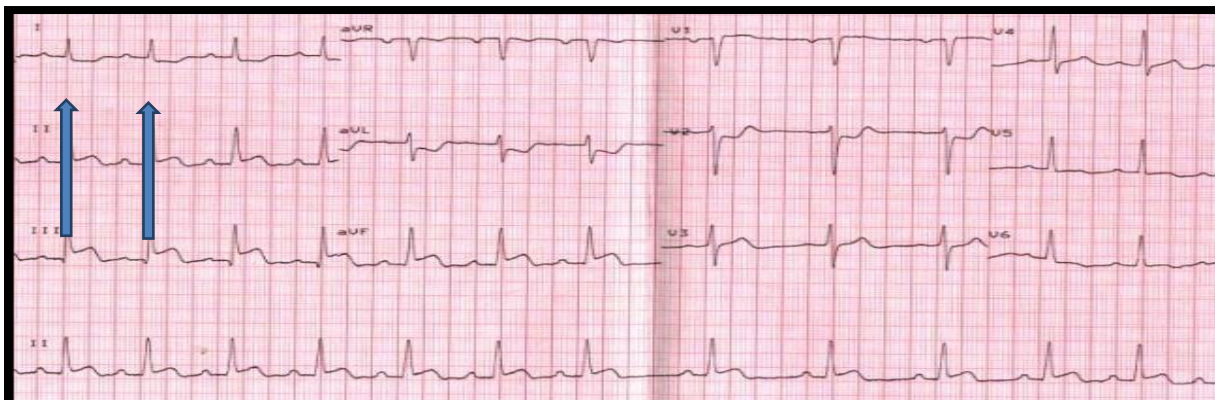
For this, we need to mark one R wave and mark the next R wave in the same lead. Then count, how many BIG squares are there in between the two R waves. The formula to calculate the Heart rate is :

300 / No. of BIG squares in between two R waves.

Anything more than half of a big square is to be counted as ONE big square.

For example, if there are 3 big squares in between two adjacent R waves, the heart rate is = $300 / 3 = 100$ / mt. If there are 5 big squares, the rate is $300 / 5 = 60$ / mt.

By applying this formula, we would arrive at only certain numbers like 300 / 150 / 100 / 75 / 60 / 50 etc depending upon the number of BIG squares between two R waves. We cannot calculate the accurate Heart rate like 68 , 74 etc by this method. If we want to get the accurate Heart rate, then we need to apply a different formula.



ACCURATE HEART RATE CALCULATION:

Here, we need to count the number of SMALL squares between two successive R waves. The formula for accurate Heart rate is :

1500 / No. of small squares in between two R waves.

For example, if there are 18 SMALL squares between two R waves, the actual heart rate is $1500 / 18 = 83 / \text{mt}$. If there are 23 SMALL squares between two R waves, the actual heart rate is $1500 / 23 = 65 / \text{mt}$.

BE CAREFUL:

These formulae hold good, only in Regular rhythm, recorded in normal speed. If the speed is double, the correction factor has to be applied to get the correct heart rate.

If the rhythm is irregular, meaning the R-R intervals are not constant, then we need to apply a different formula.

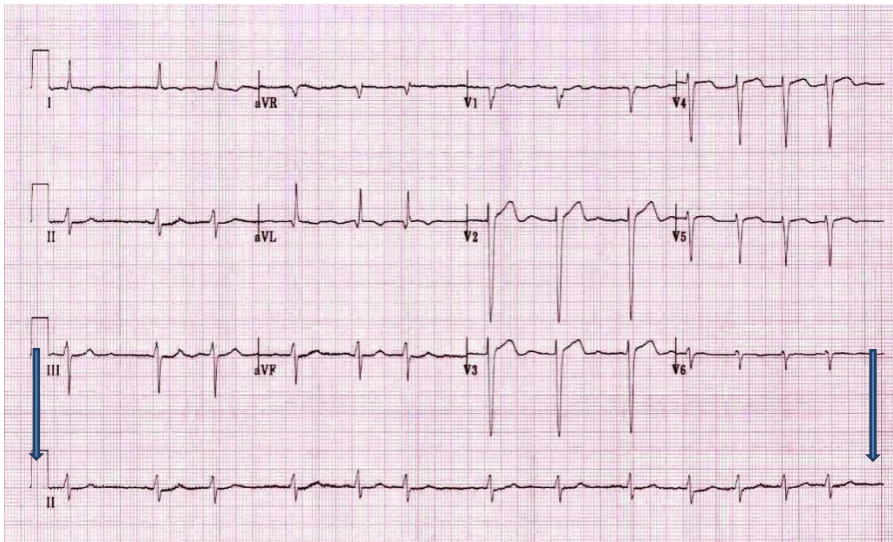
HEART RATE IN IRREGULAR RHYTHM:

Here we need to count how many qRs complexes are present in 50 BIG squares. For this, we should mark the beginning of the first BIG square, count 50 BIG squares and mark the end of the 50th Big square. Then count how many qRs complexes are present within that marked 50 big squares, which is equal to 10 second recording. Now, we know the heart rate for 10 Secs. If we multiply this with 6, we get the rate for 60 secs, ie, per 1 minute.

For example, let us take the ECG of a patient with Atrial Fibrillation, where the heart rate is irregularly irregular. Let us say, there are 15 qRs complexes within the 50 BIG squares. (10 Secs). The heart rate per minute is $15 \times 6 = 90 / \text{mt}$.

Please note, this rate is also only an average heart rate - during that period when the ECG was recorded. This can change even the very next minute.

To make the job simple, most of the present day computerized ECG machines record only 10 Secs ECG, ie., 50 BIG squares !



$$\underline{6 \times 13 = 78 / \text{mt}}$$

HEART RATE IN A-V DISSOCIATION :

When there is AV dissociation, the Atrium and Ventricle would be beating independently, without any relationship to each other. Here, the atrial rate (P wave rate) will be different from Ventricular rate (qRs rate).

The atrial rate is calculated exactly like qRs rate as discussed above. If there is a difference in the rate, then we need to mention Atrial rate and Ventricular rate separately in our report.

RHYTHM ANALYSIS :

Identifying whether the patient is in Sinus rhythm or Non sinus rhythm is a vital info. For any rhythm assessment, we need the Rhythm strip, so that, we have many qRs complexes in the same lead for analysis.

The best method by which we can accurately decide whether the complexes are occurring at absolutely constant rhythm, is to take a piece of paper and pen, mark one R wave and mark the next adjacent R wave, and move the paper along the rhythm strip, placing the marks exactly over the next set of qRs. If the rhythm is regular, the next R wave will occur exactly on the marked location, at exactly the next expected place. If the rhythm is even slightly irregular, the R wave will not coincide with your marking, where you expect the next R wave normally. It can overshoot or come prematurely.

The same principle can be applied to atrial rhythm also (P wave regularity) by marking the P waves.

If we are not marking on the paper and moving it , then , we can manually count the number of small squares between two successive R wave OR P wave and see if the waves are occurring after exactly the same number of small squares. If they are not falling at the exact expected place, then the rhythm is irregular,

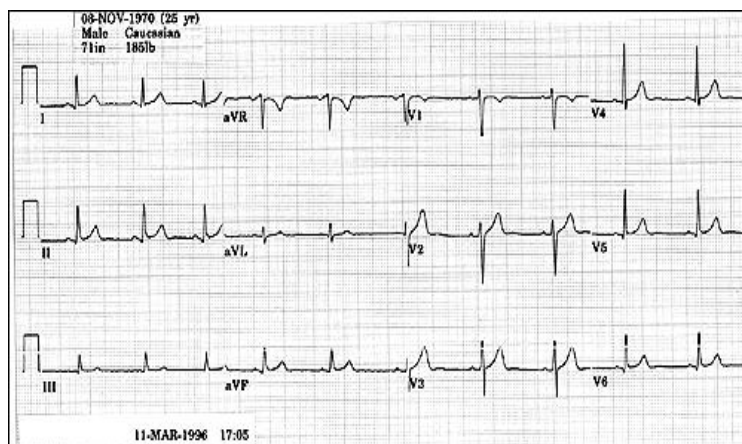
NORMAL SINUS RHYTHM :

Normal Sinus rhythm means, the impulse is originating from the SA node (Primary Pacemaker) and spreading through the designated specialized conduction system at a constant frequency, speed and regularity.

CRITERIA TO DIAGNOSE NORMAL SINUS RHYTHM :

1. P wave should be upright in L1 and inverted in aVR.
2. Constant R-R interval
3. Constant P-P interval
4. Constant P-R interval
5. Rate 60 to 100 / mt

Anything other than the above, which does not satisfy all the Five criteria, is an ARRHYTHMIA.



If the ECG satisfies all the other criteria except the Rate, if the rate is above 100, it is called Sinus Tachycardia and if the rate is less than 60, we call it as Sinus Bradycardia.

A detailed study of the Arrhythmia is beyond the scope of this article.



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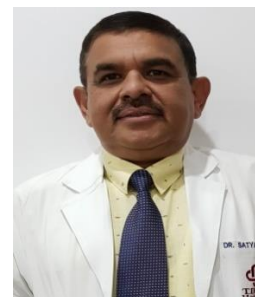


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