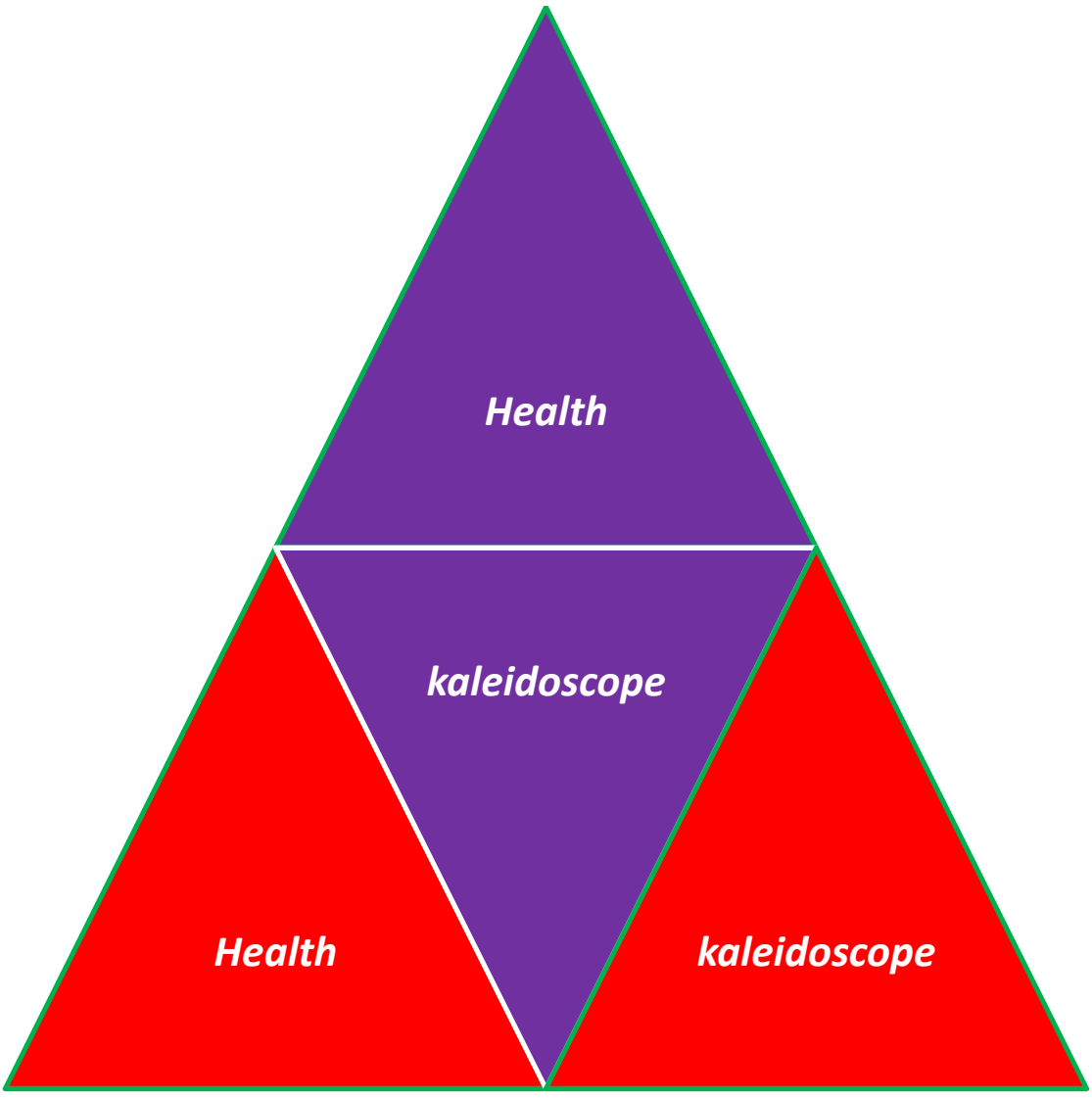
Hospital Newsletter



IIT Guwahati Hospital

24x 7 emergency medical services available

AIMS AND OBJECTIVES

The Medical Science has been evolving and new advances in this field have secured a better life for human beings. However, dissemination of information related to these various advances made and how the Medical Science has evolved recent times is certainly the need of the hour. Come what May many diseases or ailments too, adding to human beings suffering have also evolved and have taken a disastrous toll on them. This proposition in the present context or in the near future will make spreading of health education that much more relevant. So this outlook which took a positive turn in form of an e-newsletter published way back in 2016 has continued its path of success. This year too we have set the same objectives in mind and have come up with the Hospital Newsletter Volume-V. The newsletter contains write-ups on health issues and some images of the hospital events for the year 2019. We wish all our esteemed readers a "very happy new year 2020". Let us all welcome the New Year with a positive approach towards a better and healthy life style.

Regards,

Team, Medical Section

Contents

Dr. Anuj Kr. Baruah, MD (Medicine), DFID

WATER– *ELEXIR OF LIFE*

"The earth, the air, the land and the water are not an inheritance from our fore fathers but on loan from our children. So we have to handover to them at least as it was handed over to us". Mahatma Gandhi.

Once in a group discussion someone uttered that water is a very important cause of disease. Is it true! How can a material like water, a synonymous of life may become the source of disease! It is the man-made contamination of water is becoming a source of disease. So what water is? "*Water* is a transparent, tasteless, odourless, and nearly colourless chemical substance, which is the main constituent of Earth's hydrosphere, and the fluids of most living organisms. It is vital for all known forms of life, even though it provides no calories or organic nutrients" (*Wikipedia*).

Water is a very essential component of any living organism. Up-to 60% of our adult human body is composed of water. Water is a sign of life, that's why if we get any trace of water outside our planet, immediately we think of existence of life there. Water can become the apple of discord in between two nations. Various old human civilisations also developed along the banks of the rivers. So, without water we cannot think of life.

Water requirement: There is no hard and fast rule, and many individuals meet their daily needs by simply drinking water when they are thirsty, according to a report on nutrient recommendations from the Institute of Medicine of the National Academies. For adults, 1–1.5 mL of water per kilocalorie of energy expenditure is sufficient under normal conditions. Infants have high requirements for water considering their large surface area to volume ratios. Per day requirement of water for an adult male is 3.7 L and for female it is 1 L less (*Food and Nutrition Board, Institute of Medicine, National Academics*). Here total water includes all water contained in food, beverages, and drinking water. Per day 8 glasses (approximately 240 ml/glass) of pure water we should drink and rest will come from our daily intake of other foods

and fluids. Water requirement may come down and we should take doctors' advice in cases of kidney failure or heart failure. At the same time too much of water also can lead to problems due to dilution of solutes and electrolytes in the body. Over consumption of water in a brief period of time can lead to water intoxication. Water intoxication does not happen in normal circumstances. Some kinds of rare brain disorders involving our thirst centre may lead to over consumption of water and eventually death. Sometime individuals taking part in some contests or betting of water consumption may become victims of water intoxication. The consumption of water depends upon climate conditions, standard of living and habits of an individual. As a whole a daily supply of around 150 litres per head is adequate to meet the needs for all urban domestic purposes. In India 40 litres of water supply per head per day was the set target to be achieved in rural areas.

Functions and uses of water: water is the base of all living organisms. For any living organism, dried up means death. According to the Hinduism, Pancha Bhoota, five elements are the basis of all cosmic creation and water (Jal) is one of the important elements of Pancha Bhoota. Nearly all major systems in living organisms depend on water. Water moistens all the body passages, organs remaining in contact with the outside atmosphere. Water regulates body temperature, lubricates joints, protects vital organs, and helps in food passage and digestion. Water helps in flushing out of the waste products from our body; helps dissolve minerals and other nutrients to make them accessible to the body. Various uses of water include: Domestic use, like drinking, cooking, washing, bathing, gardening, etc. Public uses: cleaning streets, recreational purposes like, swimming pools, public fountains and ornamental ponds, fire protection and public parks. Other uses are like, Industrial, Agricultural, Power production etc.

Sources of Water: There are three main sources of water: 1) Rain, 2) Surface water, like river, tanks, ponds, sea etc. 3) Ground water, like Wells, springs. The water sources must conform to two criteria: (i) the quantity must be sufficient to meet present and future requirement (ii) the quality of water must be acceptable. Rain is the prime source of all water.

Drinking water: According to the WHO protocol on water *"Drinking water means water which is used, or intended to be available for use, by humans for drinking, cooking, food preparation, personal hygiene or similar purposes,"* drinking water or

potable water is water of sufficiently high quality that can be consumed or used especially for drinking and cooking with low risk of immediate or long term harm.

Water Quality: The guidelines for drinking water quality recommended by WHO (2011) have four aspects: Acceptability, Microbiological, Chemical and Radiological aspects. Acceptability aspect has physical parameters and inorganic constituents. In physical parameters we see turbidity, colour, taste and odour, and temperature. On aesthetic grounds drinking water should be free from turbidity and colour. The provision of drinking water that is not only safe but also pleasing in appearance, taste and odour is a matter of high priority. Inorganic constituents in water are chlorides, ammonia, iron, sodium, hydrogen sulphide, sulphate, zinc, manganese, oxygen, copper, aluminium, etc. Almost all are having acceptable upper limits and beyond which water becomes unsuitable as drinking water. From Microbiological aspects water has Bacteriological, Virological and Biological aspects. Ideally, drinking water should not contain any microorganisms known to be harmful. It should also be free from bacteria indicative of pollution with excreta. It is also recommended that, drinking water should be free from any viruses infectious for man. The Chemical aspects include both inorganic and organic constituents. Important inorganic constituents are arsenic, cadmium, cyanide, fluoride, lead, mercury, etc. All these constituents should not exceed their recommended maximum limit of concentration in drinking water. Radioactivity in drinking water should not only be kept within safe limits; it should also, be kept as low as is reasonably possible. So, surveillance of drinking water is an essential health measure.

World Water Day 2019: The theme for 2019 is 'Leaving no one behind'. This is an adaptation of the central promise of the 2030 Agenda for Sustainable Development: as sustainable development progresses, everyone must benefit. In 2010, the UN recognised "the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights." The human right to water entitles everyone, without discrimination, to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic use.

Fresh clean water is a limited resource, and it's costly also. So, we should put emphasis on conservation of water, through proper use and avoiding wastage of water. Water recycling, rain water harvesting are some methods for water conservation.

To conclude,

"The waters which are from heaven, and which flow after being dug and even those that spring by themselves, the bright pure waters which lead to the sea, may those divine waters protect me here." RIG VEDA.

Dr. Leena Barua, MD (O & G)

COMMON CAUSES OF PAIN ABDOMEN

In babies:-

Gas pain- Infants who swallow too much air during breast feeding or cry frequently can get abdominal pain due to accumulation of gaseous bubbles in the stomach. The infant may go on crying for hours and may not go to sleep. This might cause much anxiety to the mother but is usually nothing much to worry about. Some easy steps by which the problem can be reduced are:

(a) To keep the head end at a higher level than the stomach during feeding.

(b) To give adequate time for burping after each feed.

(c) Sometimes gentle massage of the abdomen might help.

Infection: Bacterial or viral infection may be responsible of gastroenteritis. Pain abdomen is usually accompanied by vomiting or diarrhoea.

Other causes like abdominal migraine, lactose intolerance, etc. are responsible for cramps and colic in infants.

Intussusception Generally affects first born healthy male child during the wearing period (06-09 months). The baby typically cries loudly at interval of 15-20 minutes. Vomiting may occur. The most typical symptom is passage of stool mixed with the blood. Intussusception is caused by invagination of a loop of intestine into another and may require surgical intervention.

In children- Besides any infectious causes that can occur in any age group, acute appendicitis is a serious condition that frequently affects children and young adults. Typically, the patient complains of sudden onset of pain around the umbilicus which withers off in a matter of hours and then shifts to the right lower abdomen. Fever vomiting and constipation are usually associated. Treatment is immediate surgery (appendectomy).

Any age group

Upper abdomen:

Peptic ulcer disease: Common problem affecting all age group today is peptic ulcer disease. Pain is felt in the upper abdomen and may be associated with acid eructation and vomiting. Acute pain may follow ingestion of alcohol; spicy food or analgesic drug. Complications like bleeding (manifested by blood vomiting or passage of black stool) or perforation can occur. It can be diagnosed by an upper gastrointestinal endoscopy)

Cholecystitis- Gall stone disease leading to acute pain abdomen is very common condition today. It is more common in females than in males. Pain usually occurs after a heavy meal rich in oils/fats. Pain is felt in the upper abdomen and may radiate towards the right shoulder. It is usually associated with vomiting. Passage of stone from the gall bladder to the common bile duct can result in obstructive jaundice, which becomes evident (yellow discolouration of eyes) withen 02-03 days of the initial pain. Diagnosis is easily made by abdominal ultrasound.

Acute Pancreatitis: Acute Pancreatitis is a serious condition usually occurring either due to pre-existing gall stone disease or due to excessive alcohol intake. Pain occurs suddenly in the upper abdomen and may be felt in the back also. Pain is usually very severe and patients find some comfort in the siting position and leaning forward position. Severe pancreatitis may lead to shock with sweating, sudden fall of blood pressure and detoriation of consciousness level. Patient needs immediate hospitalisation. Diagnosis is confirmed by blood test (serum amylase and lipase levels) and by radiology (ultrasound, CT scan etc.).

Liver Abscess: Both intestinal amoebiosis (amoebic dysentery) and bacterial infection of the intestine (example acute appendicitis) could lead to formation of liver abscess. Patient present could lead to formation of liver abscess. Patient present with pain in the right abdomen or epigastric region, fever and occasionally jaundice. Fever is much more in the pyrogenic (bacterial) abscess then in amoebic abscess.

Diagnosis is easily made by an abdominal ultrasound and few blood tests. Treatment may evolve surgical intervention if abscess size is more than 05 cm.

Mid/ Lower abdomen Pain:

Renal Colic: Stones in the kidney or in the uterus can cause sudden and severe pain on either side of the abdomen. In cases where the stone is in the kidney pain is mostly felt mostly in the loins. As the stone slips down the ureter, the position of the pain also goes down. In mid and lower ureteric stones, pain may radiate towards the genitalia or to the inner aspect of the thigh. Acute and severe pain is usually associated with vomiting. In the right side, this condition is sometimes difficult is sometimes difficult to differentiate from acute appendicitis.

Diagnosis is made by plain X-ray of the abdomen and /or abdominal ultrasound.

Colitis: Commonly of amoebic origin in our country colitis cause cramping pain in the lower abdomen, usually in the left side. It may or may not be associated with diarrhoea. Pain is usually not very severe, though occasionally it may be debilitating. Ulcerative colitis,' crohn's disease are also inflammatory disease of the colon but are relatively rare.

Diagnosis may require stool examination, barium meal follow through and colonoscopy.

In females

Dysmenorrhoea- Primary dysmenorrhoea is common in adolescents and is characterised by spasmodic pain beginning with the onset of menstruation and lasting for 12-24 hours. Sometimes the pain becomes so severe that girl has to miss school, or work.

The treatment is to take analgesic and anti-inflammatory drugs.

Ovulation pain

Mid-cycle pain is present from time to time during the menstrual life of almost 50 percent women. The discomfort appears between the tenth and fifteenth days and may occur in the lower abdomen centrally or in one or the other side. It varies in

severity but usually does not last longer than 12-24 hours. It may be present in one month and not in the next month.

Endometriosis- It is the proliferation of endometrial tissue in any other site other than the uterine mucosa (normal site). In uterine endometriosis(adenomyosis) endometrial tissue invades the body of the uterus, sometimes only one of the its wall or a part of it. Pain (dysmenorrhoea) occurs in 30 percent of the cases and when it occurs it is intra-menstrual.

Fibroid- It is commonest of the uterine tumours. It is mostly composed of muscle tissue with some amount of fibrous tissue.

Fibroid uterus can pain in the following circumstances

(1) Extrusion from the uterus as a polyp

(2) Torsion of its pedicle or the uterus

(3) Degeneration

(4) Malignant charges

(5) Adhesion to the other organs

Pelvic inflammatory disease

It is the inflammation of the upper genital tract involving the fallopian tubes and the ovaries. The lesion is usually bilateral.

The most common symptom of acute PID is bilateral lower abdomen pain. Pain is usually severe and accompanied by high temperature. Vomiting may also occur.

Ovarian cyst

Pain occurs in ovarian tumours when there is complication like torsion (axial rotation) or rupture of the cyst or malignant charges.

Pain abdomen in pregnant women

Abortion: It is described as the termination of pregnancy before 28 weeks (before foetus is viable).

In case of threatened abortion or missed abortion patient complains of lower abdominal pain along with backache along with uterine bleeding.

Rupture ectopic pregnancy: Rupture of an ectopic pregnancy i.e. a pregnancy where the ovum impacts and grows in the fallopian tube, causing it to rupture. It is an extremely serious condition for females in reproductive age group. Usually the lady is aware of a short period of cessation of menstruation, though it may sometimes go unnoticed Patient develop severe pain in one or other side of lower abdomen. If in the right it may be confused with acute appendicitis. However, in ruptured ectopic pregnancy the patient goes to shock soon after the onset of pain i.e. she develops cold sweat, pulse becomes very weak and blood pressure falls.

Diagnosis is made by confirming pregnancy by urine test and an abdominal ultrasound.

Abruptio placentae also called placental abruption: It is the separation of placenta from its normal implantation site before the birth of the foetus. There lower abdominal pain is usually accompanied by vaginal bleeding. There is history of pregnancy.

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ROLE OF FISH OIL IN HUMAN HEALTH

Fish is a cheap source of animal protein for our food. The World Health Organisation (WHO) recommends 01-02 portions of Fish per week. This is because the Omega-3 fatty acids in fish provide many health benefits. It protects against a number of diseases of human body.

Fish is replacing cattle in providing raw material for manufacture of insulin. The pancreas of shark is very rich in insulin. Whales also provide a considerable quantity of Insulin.

An unorthodox therapy of chronic bronchial asthma is practised using "fish medicine". The long queue at a private "free service" in Hyderabad, India once every year is a proof in itself of the efficacy if this miracle medicine to cure asthma.

Fish oil is one of the most commonly consumed dietary supplements. It is rich in omega-3 fatty acids, which is very important for human health.

Around 30 % of fish oil is made up of the other fats. Fish oil contains some vitamin like A and D also.

Multiple risk factors for heart disease appear to be reduced by consumption of fish or fish oil. The benefit of fish oil for heart includes HDL cholesterol (increases level of good cholesterol), blood pressure (it reduces BP in people with elevated level), triglycerides (it can lower triglycerides about 15-38 %).

Fish oil supplements may improve the symptoms of certain psychiatric disorder. The effects may be due to increasing omega-3 fatty acid intake.

Fish oil supplement may help reduce waist circumference as well as aid in weight loss when combined with proper diet or exercise.

Fish oil has strong anti-inflammatory effects and help in reduce symptoms of inflammatory diseases, especially rheumatoid arthritis.

Human skin can become damaged by ageing or too much sun exposure. Fish oil supplement may help maintain healthy skin.

Fish oil may support in pregnancy and in its early stages also. Omegas 3s are essential for infants' early growth and development. Fish supplement in mother or infants may improve hand-eye co-ordination although their effect on learning and IQ is not clear.

Fish oil supplements may help reduce fat in human liver and symptoms of non-alcohol fatty liver disease.

Presently depression is expected to become an important cause of illness in human. Fish oil supplements especially EPA rich ones may help improve symptoms of depression.

But we have to take precaution while taking a fish oil supplement. So always consult a qualified doctor before taking fish oil supplement. We can choose a fish oil supplement that provides 0.3 gm (300 mg) of EPA and DHA per serving People should avoid a fish oil supplement which has a rancid smell or is out of date. The production of fish oil from anchovies and similar small fish is more sustainable than that from large fish.

In our society the patient who are suffering from weakness due to fever or other disease are advise to take the magur fish (scientific name: *Clarias batrachus*) curry and singhi fish(scientific fish: *Heteropneustes fossilis*) curry to the recover the physical strength.

The nutritional value of these types of fish are as follows:

Fish (name) with per 100 kg of flesh	**Proximate principles(g)**			**Minerals (mg)**			**Vitamin**						
	Protein	*Fat*	*Energy(K Cal)*	*Cal*	*Phos*	*Iron*	*Total mineral s*	*B1*	*B 2*	*B*	*B12*	*C*	*Cholin e(B comple x)*
Magur	15	1.0	86	210	290	0.7	1.3	-	-	-	-	-	639
Singhi	22.8	0.6	124	670	650	2.3	1.7	-	-	-	-	-	64

At least it may be started that Fish can play a vital role for reducing various disease of human being.

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Dr. Mandeep Sarma Basistha, MD (Pharmacology),
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BULLOUS DRUG ERUPTIONS FOLLOWING PHENYTOIN ADMINISTRATION – A CASE REPORT

INTRODUCTION :

Cutaneous Adverse Drug Reactions are quite common with most antiepileptic agents. But interestingly the nature of cutaneous reactions differs with the drugs and even the same drug may cause different reactions in different individuals. Phenytoin, one of the oldest and most frequently used antiepileptic, is commonly associated with different cutaneous eruptions, the commonest being maculopapular in nature. Reports of large bullous eruptions are few.

We report a case of 43 year old man who has received chemotherapy for carcinoma oesophagus but presented to the emergency with seizures. He was administered phenytoin injection following which large bullous eruptions appeared in both the lower limbs but resolved on withdrawal of phenytoin and conservative treatment.

CASE REPORT:

A 43 year old man presented to the emergency department with severe bodyache and weakness. His haematological and biochemical investigations were within normal limits. Medical history revealed that he is a Postoperative case of Carcinoma Oesophagus. He underwent Transhiataloesophagectomy with Gastric Pull Through and Feeding Jejunostomy with Oesophago-gastric anastomosis at Apollo Speciality Hospital, Chennai one year back. He was advised for Chemotherapy and

Radiotherapy and had attended Gauhati Medical Colloge Hospital (GMCH) for the same. Palliative Chemotherapy with Epirubicin-Cisplatin-5 Fluoro Uracil (ECF) regimen was started 8 months ago, every 3 weekly for 3 cycles followed by reassessment . On reassessment good response to chemotherapy was seen and he was further planned for another 3 cycles of chemotherapy. But due to other constraints the patient could not attend the next cycle of chemotherapy.

He was thoroughly evaluated and analgesics and intravenous and oral rehydration was started for his bodyache and weakness. On the 2nd day of admission, he suffered from 4 episodes of Generalised Tonic Clonic Seizures with altered mental status. He was administered Phenytoin 100mg intravenously. The convulsive episode subsided. 8 hours after the administration of Phenytoin, he developed blisters on the dorsum of both lower limbs. He was restless and was having pain in his lower limbs.

Figs: Bullous Skin Eruptions

The blisters were filled with fluid. On general examination, patient was feverish (Temperature 100^0F), conscious and well oriented. Heart rate was 110 per minute, blood pressure 110/60 mm Hg, respiration were within normal limits. Clinical examination of the respiratory system and cardiovascular system was normal. Injection Phenytoin was withdrawn and tablet Levetiracetam 500 mg was added. Dermatological consultation was taken, diagnosis of Bullous Drug Eruptions was made and 2% Lignocaine jelly and Mupirocin ointment was mixed in 1:1 ratio and applied topically on the blisters. His condition improved gradually and the blisters disappeared within 4-5 days. A CT-Scan Brain was done which revealed nodular lesions showing peripheral ring of hyperdensity and central hypodensity in the high parietal region raising suspicion for metastasis. MRI and PET scan confirmed the same. On request by the guardian, the patient was referred to Tata Memorial Centre, Mumbai for further treatment.

DISCUSSION :

Phenytoin is a commonly used drug in any hospital setting to combat seizures. The dermatological manifestations exhibited in this patient in the form of large bullae raised our suspicion towards hypersensitivity reactions caused by phenytoin. It is a well-documented fact that cutaneous eruptions are common adverse drug reactions caused by most antepileptics. [1] The prevalence of antiepileptics causing drug rash has been estimated by different authors in different times. [2][3] Almost 1 in 1000 patients treated with phenytoin worldwide develop hypersensitivity reactions, but the exact incidence is unknown.[4] The spectrum of adverse drug reactions caused by phenytoin is quite broad and extensive.[5] Among the cutaneous reactions, maculopapular reaction is the commonest.[6] Bullous reaction due to phenytoin has

been reported by Indu et al [7], Jain et al [8]. Our case differs from the rest in the fact that such huge bullous lesions have rarely been reported. Unusually aggressive skin reactions have been reported in patients of brain tumors on phenytoin undergoing radiotherapy.[9]

In this present case, the patient had huge bullous eruptions after phenytoin was administered parenterally. A probability of chemotherapeutic agents causing skin eruptions was there but since the cycle was completed 6 months back, the probability can be ruled out. There was no previous history of similar drug use. Any other etiology for this reaction could not be elicited. Based on WHO assessment scale for causality, the adverse drug reaction can be considered as "Probable". [10] On Naranjo Causality Analysis a score of 5 was obtained which indicated probable adverse drug reaction.[11] The case is reported with a view that the array of cutaneous eruptions associated with phenytoin needs to be documented as vividly as possible.

CONCLUSION :

Adverse drug reactions are important factor leading to morbidity and mortality in any population. Very often seemingly innocuous drugs can be the culprit. Phenytoin is a commonly used drug which physicians around the globe use without much of a second thought. Keeping in mind the possible risk of this dangerous condition while prescribing this drug will help in rapid identification. To conclude, early diagnosis of adverse drug reactions and withdrawal of the offending drug with immediate effect is essential and is the key to avoid extra complications while facilitating early recovery.

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Dr. Bhumidhar Barman, MBBS

COMMON SPORTS INJURIES AND THEIR MANAGEMENT

Introduction

Sports injuries are injuries that occur during sport, athletic activities or exercising they can result from accidents, poor training techniques in practice, overuse of a particular body part or application of force that is greater than the body part can structurally withstand. In United States, there are 30 million teenagers and children who participate in any form of organized sport and out of these about 3 million experience sports injuries annually. Adults are less likely to suffer from sports injuries than Children whose vulnerability is heightened by immature reflexes and underdeveloped coordination.

Common Sports Injuries

1. **Sprains :**

   A sprain is where one or more ligaments are stretched, torn or twisted. A Ligament connects one bone to another and improves stability a joint. Sprain often occurs in ligaments around ankle or Knee joint.

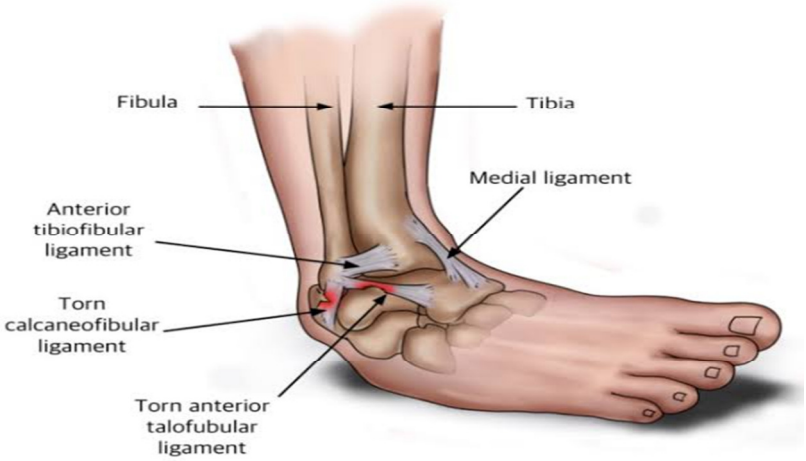

Fig1 : Sprain of right ankle joint

2. Strains :

A Strain is where muscle fibers are stretched on torn. A muscular strain is sometimes referred to as “Pulling a muscle”. Tendons can also be strained. Strains are common in many sports particularly those involving running, jumping or rapid change of direction.

3. Dislocation :

A dislocation is an injury in which the ends of bones are forced from their normal positions. It results from a fall or collision during contact or high speed sports. It usually involves larger joints. Shoulder joint is most prone for dislocation whereas in children elbow joint is most vulnerable for dislocation. A dislocation requires urgent medical attention to return the bones to their original position.

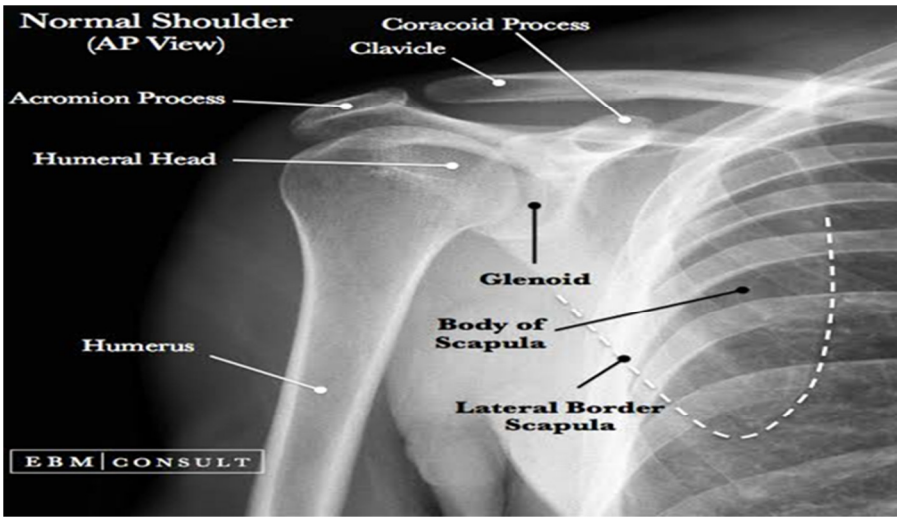

Fig. 2 : Anterior dislocation of shoulder joint

4. Fractures :

Fractures are the commonest injuries for people of all ages. Diagnosis of fracture depends on location and how the fragments are aligned. Depending upon the line of breach, the fractures may be linear, transverse, oblique, spiral, greenstick or comminuted. Apart from clinical examination an x-ray can confirm the diagnoses of fracture.

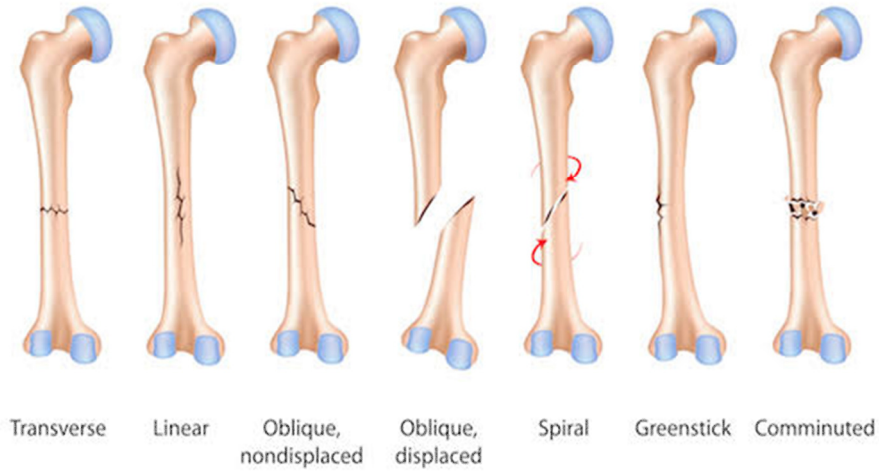

Fig. 3: Different types of fractures

5. **Punch Syndrome :**
   Punch Syndrome is seen in boxers which is caused by repeated cerebral concussion and characterised by weakness of lower limbs. slow muscular movements, tremor in hands and slurred speech. In some cases consciousness may be altered for a considerable period of time.

6. **Knock out :**
   Knock out is a fight ending-wining criterion in several sports such as boxing and taekwondo. This may be associated with sudden traumatic loss of consciousness. Single powerful blow to the head can produce cerebral concussion or a Carotid sinus reflex with syncope.

7. **Tennis elbow :**
   Tennis elbow is caused by over use of arm, forearm and hand muscles which gives rise to elbow pain. A person do not need to play tennis to get this condition but the term came into use because it caused significant problem for some tennis players. It particularly involves lateral epicondyle of elbow joint. The condition can involves dominant as well as non-dominant arm of a sportsperson.

Fig. 4: Tennis Elbow

8. Boxer's elbow :

These type of injuries are common amongst boxers. It results from sudden extension and hyperextension of coronoid and olecranon process of elbow joint. Acute variety of this condition includes elbow dislocation and tendon tear around the joint. Strengthening exercise along with wrist flexion help to strengthen tendons and thereby the patient can recover promptly.

9. Mallet Finger :

A mallet finger is a deformity which results due to damage of extensor tendon of fingers of hand when the ball strikes the tip of the finger forcibly that tears the tendon which straightens the finger. The force of blow may even pull away a piece of bone along with the tendon. In mallet finger the fingertip usually drops due to loss of muscle power.

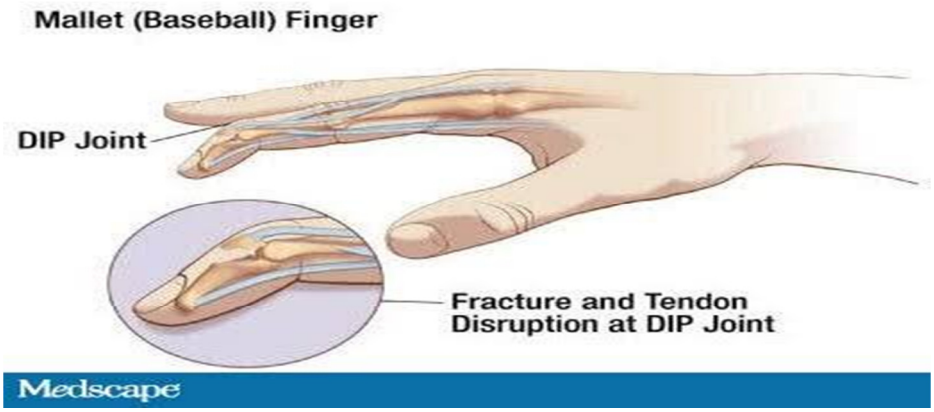

Fig.5: Mallet finger

10. Shoulder impingement syndrome:

Shoulder impingement syndrome is a common cause of shoulder pain. It occurs due to impingement of tendons from bones of shoulder joint. This condition can be seen in those sports where repeated overhead activity is seen such as swimming, badminton and weight lifting.

History:

To attain at a diagnosis one needs to take a careful history, complete Physical examination and special investigations in some cases. History taking remains the keystone of accurate diagnosis. The detailed history should include onset, duration, severity, aggravating and relieving factors, general athlete health, training history as well as previous treatment received.

Clinical Examination:

Inspection of the injured part reveals important changes such as swelling, bruising, deformity or guarding. Palpation should be done to elicit tenderness, rise of temperature or any crepitus which is usually found in fracture.

Special investigations:

Radiological investigation forms a critical component of diagnosing musculoskeletal injuries. X-ray of suspected fracture is initial investigation of choice. Now days Magnetic Resonance Imaging (MRI) and musculoskeletal ultrasound (US) are widely used for diagnostic as well as therapeutic purpose for sports injuries.

MRI is recognised as gold standard in diagnosing condition such as ligaments and muscle injury, Disc herniation or prolapse, spondylolysis. Musculoskeletal USG is a newer diagnostic modality in modern orthopaedics which can detect subluxation and intramuscular haematomas. It can also be used to guide injections into joints for therapeutic purpose. Nowadays Electro diagnostic studies such as Electromyography (EMG) and nerve conduction studies are used to evaluate nerve entrapment. In suspected Compartment Syndrome, pressure inside intramuscular compartment is measured at rest and during exercise by means of a transducer. Apart from these blood biochemistry, haematology, Urinalysis may also be utilised to evaluate metabolic and hormonal abnormalities that may contribute to sports injures.

Management:

For effective treatment the clinician should establish a diagnosis and distinguish between acute and over use injury. Initial management should target treatment of pain, redness and reduction of swelling allowing optimum healing and promoting patient rehabilitation. The first aid response in acute sports injury should follow the RICE Sequence.

Rest
Ice application
Compression
Elevation of the effected limb

Apart from this Complete immobilization is required for acute fractures. Casts and Splints are applied for primary stabilization of fractured wounds.

Pharmacological treatment:

Analgesics :

Analgesics are used in acute phase to reduce pain. Most commercially available topical analgesics contain combination of substances such as Menthol, Methyl salicylate and Linseed oil.

NSAIDS :

Selective Cox-2 inhibitors are the Non-Steroidal anti-inflammatory drugs that directly targets Cycloxygenase-2, which is an enzyme responsible for pain and inflammation. Celecoxib and Rofecoxib are selective Cox-2 inhibitors but recent clinical trials have revealed that Cox-2 inhibitor's cause significant increase risk of heart attacks and strokes. For this reason Rofecoxib has been taken off the market in 2004. Topical diclofenac with methylsalicylate work by relaxing muscles and decreasing onset of muscle soreness.

Local injection of corticosteroids are also used now a days for relief of chronic pain in Tennis elbow. Therapeutic options includes prolotherapy (10% dextrose or Sodium morrhuate injected over a painful ligament), Sclerotherapy (Polidocanol injection) Topical trinitroglycerines(TNG), Platelet rich plasma (PRP). Prolotherapy is proved to be beneficial in chronic tendinopathies and osteoarthritis. Polidocanol reduces pain in chronic Achilles tendinopathy. PRP is prepared from whole blood which provides growth factors for fracture healing.

Physiotherapy:

Physiotherapy options available for sports injuries include message, cryotherapy, contrast baths, Electrotherapy, Isometric excercises, LASER and dry needling. Selection of appropriate modality should be based on accurate clinical diagnosis of the injury

Surgery:

Surgery in sports injuries aims to realign, reconstruct or repair damaged tissue. Depending upon type of injury immediate or postponed intervention may be indicated. For example Achilles tendinopathy should first be treated conservatively and only be indicated for surgery if these methods for surgery fail while immediate referral for a knee dislocation is imperative. Post-surgical rehabilitation is also a critical component in the process and should be considered to be equally important as the procedure itself.

Conclusion:

The term in sports injuries is very broad which encompasses a wide variety of anatomical structures of the human body. It is very essential to achieve a correct clinical diagnosis as the outcome will depend on definitive treatment. Therefore, the clinician should have all inclusive approach to diagnosis and a focused management plan that strives to help the player to return to sports as soon as possible.

IMAGES 2019- *THE YEAR THAT HAS GONE BY*

Dr. Mahesh N. Himadri delivering a special lecture on " Healthy Ageing" on 27th JUNE 2019 in Conference Hall of IIT Guwahati

A special interactive meeting on Group Medical Insurance Scheme (GMIS) of Institute was held on 28.11.2019 in the Conference Hall of IIT Guwahati.

A section of the audience participating in this interactive meeting that had one to one discussion with the Insurance Official of M/s Iffco Tokio General Insurance Pvt. Ltd regarding GMIS.

A special *Brain Storming* Session on the topic *"preventive measure to stop suicide cases in IITG campus"* was held on 29.11.2019 in the Conference Room of IIT Guwahati. The session was chaired by the Prof. P.S. Robi, Deputy Director of IIT Guwahati and moderated by Dr. A.K. Baruah, CMO(NFSG) and HOS Medical Section of IIT Guwahati.

DISCLAIMER: The articles written for this newsletter have been own creations of the writers. Whole or part resemblance of any of them with any other previous written articles by other writers will be treated as mere coincidence. The readers are advised to familiarise with the all medical terms as mentioned in these articles before forming any opinion or coming to a conclusion. The Medical Section will not be anyway responsible for any kind of typo committed in these articles.

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