KADAMBINI ORTHOPAEDIC & SPINE TRUST

(Kadambini Charitable Trust)

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NEWS LETTER

Dear all,

I reached Bhubaneswar yesterday by the evening Indigo flight 20 minutes late to be greeted by torrential rains. The new swanky Bhubaneswar airport was full of traffic each honking at each other with no one giving way to any one. Who can teach us etiquette and culture, even lord Jaganath has given up I suppose ! Since then it has been raining incessantly while I am sitting at my friends press writing this editorial 24 hours later.

The city of Cuttack is full of water, especially at Shanti Hospital friend's colony where I was seeing some patients in the morning .I had to be transported out in a high ambulance to reach this press. The drains, the ponds and the street all are full of water and I could see some water snakes along the road. I came to Bhubaneswar for flood relief health camp and I have got caught in it. I am hopeful Jaganath will give us some relief for the cricket match between Australia and India on Saturday and for our health camp on Sunday.

This is going to be our sixth health camp and hopefully we along with my friends and doctor colleagues will be able to help local people caught off-guard first in the cyclone and now in these torrential rains. Public health takes a real beating during these times and unfortunately our municipalities have been left wanting in such situations. However after the excellent handling of the Government of the cyclone Phallin I hope we will see better days ahead. We must as citizens all pitch in with whatever we can do to help, with whatever our field of expertise is. My father keeps telling me even today, that we must stick to our own profession and do it to the best of our abilities.

Today I saw the little girl we operated with funds from our trust and concession from shanti hospital. The girl and the father are so happy today you all can well imagine, so when I told him that I was going to sit down to edit a news letter today ,he wished to write down a few lines which I have added in the following pages . I hope to be able help many more children like these in future. You all will be surprised to learn that only yesterday Dr Shakti Das, Dr Feroze Ali and Dr Bikram Kar all told me in separate conversations I had with them that Shankar Bhai we must keep doing this every month and they will all help in surgery and patient selection.

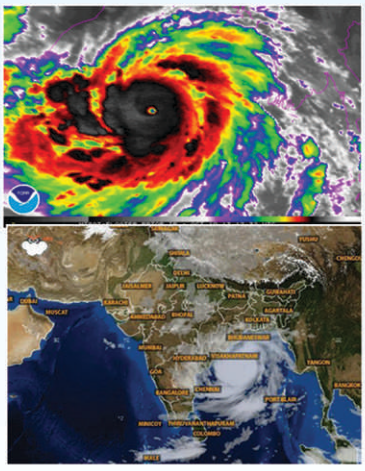
Life is too short and as Chetan Bhagat puts it we must do our best ,and live life to the full. We are like a prepaid card with limited validity. One of my closest friend Dr Ramesh Mishra who was a famous and a very popular Orthopaedic Surgeon in Angul, Odisha met with a tragic car accident two weeks ago and he is no more. Together we have done so many cases in Nalco Hospital during workshops and other times that I can't believe he is no more. I dedicate this newsletter to him and may his soul rest in peace.

Nothing is possible without Gods help and support from all of you. You can reach me by mail at ***spineshankar@gmail.com***

Shankar Acharya

Trustee (KOST-KCT), NOBEL 2005, Sushrutam 79, SPAI 76

Rebuilding Odisha in the aftermath of Cyclone Phailin – An Appeal



It was memories of another day what we wanted to blissfully forget. At a time when things started looking up , Odisha seemed to have started shedding its legacy or baggage as an under-developed State, gradually transforming itself into a preferred destination for investors fuelled by an inspired industrial growth story , the past scary memories of untold havoc and destruction wrought by Super Cyclone in 1999 suddenly came alive. After fourteen years of that catastrophic episode, the Very Severe Cyclonic Storm "PHAILIN"(Category 5) and the resultant foods ravaged and battered the entire coast line of Odisha and left behind a trail of destruction and large-scale damage to property, standing crops.

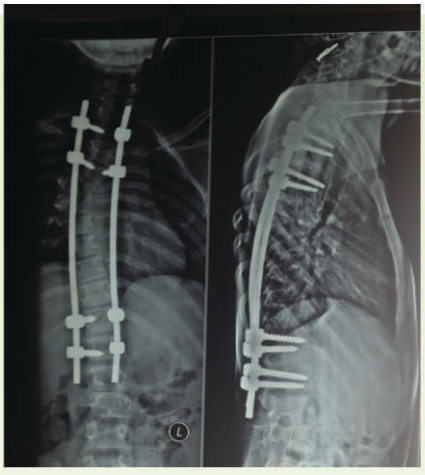
Thanks to the early warning issued by Meteorology Department (IMD), elaborate preparedness and pro-active measures of State Administration coupled with timely intervention of NDMA and Defence Forces, 9 lakhs people in the highly vulnerable zone were evacuated in short span thereby keeping the casualties to the minimum. Suddenly, Odisha model has captured the world imagination, becomes a classic case study of disaster management, and goes down in the contemporary history as one of the largest exercises ever in safe evacuation of people, which has earned the kudos the entire world over. What is further heartening to note that the World Bank and New York Times are reconstructing and documenting the entire chain of events to project this exercise as a model for other developing nations to emulate! Going by the recent trends in Global Warming it is predicted that the frequency and magnitude of natural disaster will scale up and intensify. In such a scenario, only pre-disaster preparedness, mobilisation and optimisation of resources will be an enabling factor to mitigate or minimise its impact or fallout as well as head towards an accelerated recovery.

Having taken the threat of impending cyclone and challenge of timely evacuation of vulnerable segments of population head on, it is more important in the post-disaster phase to move on swiftly in a co-ordinated fashion to handle the real challenge of massive relief, restoration and rehabilitation staring at all of us . To start with, let us have a fact-sheet of the damage caused in the aftermath of "PHAILIN". The cyclone and the resultant food ravaged 18 of 30 districts, caused death of 44 people, damaged 4 lakh houses,6000 school building and destroyed standing crops on6.71 hectares. The people affected stands at over 1.72 crores in 18,374 vilages and 44 towns. To top it all, the power infrastructure both in transmission and distribution space has been severely hit, with Ganjam worst affected, leading to delay in emergency restoration of power. Since the threat of outbreak of epidemic looms large, the role of heath care professionals, round-the-clock availability of medical services and timely supply of medicines assumes serious meaning to avert potential public health hazard.

Having taken stock of the enormity of the catastrophe, the way the entire State administration has swung into action with a rare sense of urgency, never seen before, to restore semblance of normalcy in the affected regions deserves credit. It's time the Govt machinery, NGOs and the civil society must coherently demonstrate their solidarity to rise to the occasion. It's no time to be insensitive nor to be cynical of the system like an arm-chair critic. Considering the sheer magnitude of the calamity and consequential colossal damage to lives and property, not to speak of the trauma of the victims, it is the call of humanity for all of us to stand together in this crisis of faith and lend a helping hand to the people affected by the tragic events . Every one of us do our little bit in this chain of massive rebuilding efforts.

Yes, we are passing through a testing time when the faith of the humanity is on trial. Let us all demonstrate our good intent backed up by action, donate generously, and render self-less service to mitigate the suffering of the victims.

The silver lining is every crisis the humanity confronts upfront has a unifying force. We will be judged by the history as to how fast we mobilise, optimise our resources, act and deliver in a concerted and manner to recover, reorganise and rebuild the Community and social infrastructure to put the system back on track.



ମୁଁ ଦୁର୍ଗାଚରଣ ଜେନା, ତୁଳସୀ ଜେନାର ପିତା KOST-KCT ଏବଂ ଡ଼ଃ ଶଙ୍କର ଆଚାର୍ଯ୍ୟ ଏବଂ ତାଙ୍କ ଟିମ୍‌ର ସାହାଯ୍ୟ ଓ ସେବା ପାଇଁ ଚିରକୃତଜ୍ଞ । ଯେହେତୁ ସିଏ ମୋର ଝିଅର ମେରୁଦଣ୍ଡ ଅସ୍ତ୍ରୋପଚାର ପାଇଁ ଆର୍ଥିକ ସାହାଯ୍ୟ କରିଛନ୍ତି । ମୁଁ ଓଡ଼ିଶାର ବହୁତ ହସ୍‌ପିଟାଲ୍ ବୁଲି କୌଣସି ସମାଧାନର ରାସ୍ତା ପାଇପାରିନଥିଲି । କିନ୍ତୁ ଡ଼. ଶକ୍ତିଦାସଙ୍କର ସହାୟତାରେ ମୁଁ ଡ଼. ଶଙ୍କର ଆଚାର୍ଯ୍ୟ ଯେକି ଗଂଗାରାମ ହସ୍‌ପିଟାଲ ଦିଲ୍ଲୀରୁ ନିୟମିତ ଭାବେ ଓଡ଼ିଶାର ରୋଗୀମାନଙ୍କ ଚିକିତ୍ସା ଓ ସାହାଯ୍ୟ ପାଇଁ ଆସିଥାନ୍ତି । ତାଙ୍କ ଦ୍ୱାରା ମୋର ଝିଅର ମେରୁଦଣ୍ଡର ଅସ୍ତ୍ରୋପଚାର ଶାନ୍ତି ମେମୋରିଆଲ୍ ହସ୍‌ପିଟାଲରେ କରାଇଥିଲି, ଯାହାଦ୍ୱାରା ସେ ସଂପୂର୍ଣ୍ଣ ସୁସ୍ଥ ହୋଇପାରିଛି । କିନ୍ତୁ ଏଥିପାଇଁ ମୁଁ କୌଣସି ଆର୍ଥିକ ବ୍ୟବସ୍ଥା ଯୋଗାଡ଼ କରିପାରିନଥିଲି । ଡ଼ଃ ଶଙ୍କର ଆଚାର୍ଯ୍ୟ ତାଙ୍କ ଟ୍ରଷ୍ଟ KOST-KCT ଦ୍ୱାରା ସଂପୂର୍ଣ୍ଣ ଖର୍ଚ୍ଚ ବହନ କରିଥିଲେ । ସେଥିପାଇଁ ମୁଁ ଡ଼ଃ ଶଙ୍କର ଆଚାର୍ଯ୍ୟ ଏବଂ ଶାନ୍ତି ମେମୋରିଆଲ୍ ହସ୍‌ପିଟାଲର ସାହାଯ୍ୟ ଓ ସହଯୋଗ ପାଇଁ ଚିରୋପକୃତ ।

ସା : ବାଙ୍କଶରା, ପୋ କାଦବରାଙ୍ଗ, ଜି: ଭଦ୍ରକ

Hepatitis and You

Viral Hepatitis

THE LIVER AND HEPATITIS

THE LIVER

The liver is the largest internal organ of our body and it weighs approximately 1200 to1500 grams. The liver is located behind the lower right part of your ribs and below the diaphragm in the abdominal cavity.

The liver's main function is to filter the blood. It helps guard you from infection and removes bacteria and other toxic substances from your blood to help you stay healthy.

WHAT DOES THE LIVER DO?

The liver plays about 500 different roles. Importantly, it

- Stores vitamins, sugars, fats and other nutrients from the food that you eat
- Builds chemicals that your body needs to stay healthy
- Breaks down harmful substances, like alcohol and other toxic (poisonous) chemicals
- Removes waste products from your blood
- Controls hormone levels in blood
- Helps fight infection

HEPATITIS

Hepatitis means "inflammation of the liver". Hepatitis can be caused by

Hepatitis Viruses	Several different viruses cause viral hepatitis. They are named Hepatitis A, B, C, D and E viruses.
Alcohol Consumption	Intake of too much alcohol can cause alcoholic hepatitis.
Drugs	Certain drugs can also cause hepatitis.
Genetic Disease	Very rare, but autoimmune hepatitis is a disease in which the body's immune system attacks liver cells.

VIRAL HEPATITIS

Viral hepatitis is the most common cause of hepatitis. Several different viruses cause viral hepatitis. They are named hepatitis A, B, C, D and E viruses. All of these viruses cause acute or short-term viral hepatitis. The hepatitis B, C and D viruses can also cause chronic hepatitis, in which the infection is prolonged, sometimes lifelong.

MODES OF TRANSMISSION IN HEPATITIS A & E

Hepatitis A & E are water-borne infections. The main source of infection is by drinking water which has been contaminated by the virus. Infected persons shed the virus in their stools. Contamination of drinking water with stool can lead to large scale infections (Epidemics).

These viruses do not stay in blood stream of infected people for prolonged time period Hence, transmission through blood transfusion, infected syringes or shaving razors/tooth brushes is rare. Similarly, transmission from mother to child with these viruses is unusual.

MODES OF TRANSMISSION IN HEPATITIS B & C

Hepatitis B and C are blood-borne infections, and a tiny amount of blood from someone who has the virus will pass on the infection if it gets into your bloodstream, e.g. through an open wound, cut or scratch, or from a contaminated needle.

All blood donations in India are tested for hepatitis B but, before testing was introduced, it was possible to become infected by receiving blood or blood products from an infected person. In countries where blood is not tested, blood transfusions may still be a cause of infection.

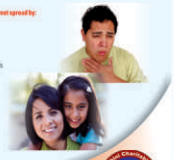
Hepatitis C virus was formerly called Non-A, Non-B hepatitis virus and was classified as hepatitis C virus in 1992. Therefore people who have had blood transfusion or surgery prior to 1992 should consult their physician. Blood tests are the only possible way to detect the HCV infection.

Most of the time, modes of transmission are the same in both hepatitis B and C. The major differences in chances of infection between these two groups are sexual transmission and vertical transmission (infected mother to child), which are high in case of hepatitis B as compared to hepatitis C. The table on the next page will help you understand these differences.

MODE OF TRANSMISSION	HEPATITIS A	B	C	E
Blood transfusion	Low	High	High	Low
Needle prick with an infected needle	No	High	High	No
Sexually transmitted	Low	High	Low	No
Dental treatment where equipment is not properly sterilized	Low	High	High	No
Getting a tattoo or body piercing with unsterilised tools	Low	Low	Low	No
Sharing razors, toothbrushes, towels with an infected person	Low	Low	Low	No
Infected mother to child transmission	Low	High	Low	Low
Sharing drug needles	Low	High	High	No
Hemodialysis in kidney failure patients	Low	High	High	No
Breastfeeding	Low	Yes	No	No
Food and water	High	No	No	High

It is important to know that hepatitis is not spread by:

- Sneezing
- Coughing
- Sharing drinking glasses or eating utensils
- Handshakes
- Holding hands
- Hugging
- Kissing on the cheek
- Playing with children



SYMPTOMS OF HEPATITIS A AND E

Early symptoms of hepatitis A and E infection can be mistaken for influenza, but some sufferers, especially children, exhibit no symptoms at all. The common symptoms are as follows:

- Fatigue
- Fever
- Stomach ache
- Appetite loss
- Desire to vomit
- Jaundice, a yellowing of the skin or whites of the eyes
- Clay-coloured stools
- Dark amber coloured urine

The confirmation of these infections is by blood tests advised by the doctor.

SYMPTOMS OF HEPATITIS B AND C

Many people with hepatitis B or C don't have symptoms. However, some people with hepatitis C feel like they have the flu. So, you might

- Feel tired
- Have a fever
- Not want to eat
- Have stomach pain
- Have diarrhoea

Some people have

- Dark yellow urine
- Light-coloured stools
- Yellowish eyes and skin

If you have these symptoms or think you might have hepatitis, the only way to confirm hepatitis is to get your blood tested for hepatitis B and C.

HOW CAN HEPATITIS B AND C VIRUSES DAMAGE THE LIVER, IF NOT TREATED WELL ON TIME ?

The Healthy Liver

- Your liver helps fight infections and cleans your blood.
- It also helps digest food and stores energy for when you need it.
- A healthy liver has the amazing ability to grow back, or regenerate, when it is damaged.
- Anything that keeps your liver from doing its job — or from growing back after injury — may put your life in danger.

Fibrosis

- If left untreated, the inflamed liver will start to scar.
- As excess scar tissue grows, it replaces healthy liver tissue.
- This process is called fibrosis (scar tissue is a kind of fibrous tissue).
- Scar tissue cannot do the work that healthy liver tissue can.
- The healthy part of your liver has to work harder to make up for the scarred part.
- If your liver disease is diagnosed and treated successfully at this stage, there's still a chance that your liver can heal itself over time.

Cirrhosis

- If left untreated, your liver may become so seriously scarred that it can no longer heal itself.
- This stage – when the damage cannot be reversed – is called cirrhosis.
- Cirrhosis can lead to a number of complications, including liver cancer.
- In some people, the symptoms of cirrhosis may be the first signs of liver disease.

Liver Cancer

Cancer that starts in the liver is called primary liver cancer.

Cirrhosis due to hepatitis B and hepatitis C is a leading risk factor for primary liver cancer.

- Once you've been diagnosed with cirrhosis, treatment will focus on keeping your condition from getting worse.
- It may be possible to stop or slow the liver damage.
- It is important to protect the healthy liver tissue in your body.

Liver Failure

- Liver failure means that your liver is losing or has lost all of its function.
- It is a life-threatening condition that demands urgent medical care
- When liver failure occurs as a result of cirrhosis, it usually means that the liver has been failing gradually for some time, possibly for years.

Cirrhosis, liver cancer, and liver failure are serious conditions that can threaten life.

- At these stages of liver disease, treatment options may be very limited.
- It's important to catch liver disease early, in the inflammation and fibrosis stages.
- If one is treated successfully at these stages, the liver may have a chance to heal itself and recover.

To prevent complications such as cirrhosis, liver cancer and liver failure, patients suffering from hepatitis B and hepatitis C should consult their physicians to understand available treatment options.

HEPATITIS B

WHAT IS HEPATITIS B?

Hepatitis B, sometimes called Hep B or HBV, is a liver disease caused by the hepatitis B virus. You can prevent illness by having a vaccination that will give you protection from the virus.

Hepatitis B is common in India, South East Asia, the Middle and Far East, southern Europe and Africa. The WHO estimates that one-third of the world's population has been infected at some time and that there are approximately 350 million people who are infected long term. In Europe, there are estimated to be one million people infected every year. In the UK, approximately 1 in 1000 people are thought to have the virus. In some inner-city areas, where there is a high percentage of people from parts of the world where the virus is common, as many as 1 in 50 pregnant women may be infected.

India has intermediate endemicity of hepatitis B.[1] The number of HBV carriers in India has been estimated to be over 40 million (4 crore). It has been estimated that in India, of the 25 million infants born every year, over one million run the lifetime risk of developing chronic HBV infection. Every year over 100,000 Indians die due to illnesses related to HBV infection.

The virus is present in body fluids such as blood, saliva, semen and vaginal fluid. In the UK, Europe and North America, hepatitis B is mainly passed from person to person by having unprotected sex. In the rest of the world the most common way of getting infected is from infected mothers to children or from child to child.

ACUTE HEPATITIS B

In hepatitis B, 90-95% of adults clear the virus from their body within 6 months and a few of them go into chronic hepatitis B (5-10%). But young children of up to 5 years of age have a 50% chance to clear the virus in the acute stage, while 90% of babies cannot clear the virus if they get it from their infected mothers at the time of the birth.

CHRONIC HEPATITIS B

Patients who cannot clear the virus within 6 months progress into the chronic stage of hepatitis B. Most young children and babies go into the chronic stage of hepatitis B. When infection becomes chronic, it slowly damages the liver over many years.

This is the reason why many patients infected with HBV do not experience symptoms.

HOW IS HEPATITIS B DIAGNOSED?

Tests to be done before treatment:

1. Hepatitis B Surface Antigen (HBsAg):

This test confirms that the hepatitis B virus is present.

2. Anti-core IgM Antibody (IgM anti-HBc)

This detects an antibody that appears very early after infection and is the marker of recent infection (acute hepatitis B).

3. Hepatitis B Surface Antibody (HBsAb or anti-HBs):

This test determines if your immune (defense) system has successfully developed a protective antibody against the Hepatitis B virus. YOU ARE PROTECTED AGAINST THE HEPATITIS B INFECTION IF YOU HAVE THIS ANTIBODY.

4. Hepatitis B Envelope Antigen (HBeAg):

This test confirms that there is active replication or multiplication of the virus.

5. Hepatitis B Envelope Antibody (Anti-HBe or HBeAb):

This test confirms the seroconversion of HBeAb – i.e., decreasing infectivity.

6. LFT (Liver Function Tests):

Liver function tests (LFTs) are blood tests that measure substances in the bloodstream that indicate that the liver is damaged. The main marker is ALT in the liver function test. However, they are not always good indicators of liver damage and do not detect the presence of the virus. LFT levels can fluctuate throughout the course of the disease. Sometimes they are normal, but this does not prove that liver damage is absent.

7. HBV DNA (qualitative + quantitative)

These tests help doctors to understand the Hepatitis B virus load.

8. Liver Biopsy

This is the removal of a small piece of tissue from the liver using a special needle. The tissue is examined under a microscope to look for inflammation or liver damage.

9. Ultrasound of the Liver:

Ultrasound of the liver allows the doctor to see if there are any abnormalities on the surface of your liver

TREATMENT

Hepatitis B

Please note that treatment for hepatitis B should be taken only under the supervision of a registered medical practitioner. Please consult your doctor for more information on the available drugs for hepatitis B.

INTERFERON

- Interferons are proteins produced naturally by our bodies.
- They can also be man-made and given to people by injection to boost their supply of interferon.
- Interferon therapy is called a "biologic" therapy because it uses a substance made by the body.

- Interferons help the body's immune system work, increasing the possibility that the virus will be recognized as foreign and be attacked by specialized cells of the immune system.
- Interferon needs to be injected subcutaneously (literally, under the skin).
- The injections need to be given daily for up to a year.
- The injections are given either in combination with a nucleoside or nucleotide analogue, or as monotherapy.

PEG-INTERFERON

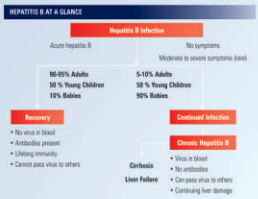
Now, pegylated alpha interferons – modified versions of standard interferon alpha that result in "longer-acting" versions – are available. They may work slightly differently in the body and be given only once a week, unlike non-pegylated interferons. These are sustained-release interferons and concentration of the interferon in the body remains for a longer time than with non-pegylated interferons.

NUCLEOSIDE AND NUCLEOTIDE ANALOGUES

Nucleoside and nucleotide analogues are oral, anti-viral medications that act by lowering the virus load in the body initially, as they have higher anti-viral activity.

Duration of the treatment is not finite, as patients have to take the therapy from 6 months to lifelong. If a patient doesn't respond to the therapy initially then there are chances that the virus has developed resistance to the other therapies for hepatitis B also.

HEPATITIS B AT A GLANCE



HEPATITIS C

WHAT IS HEPATITIS C?

Hepatitis C is a liver disease caused by the hepatitis C virus. The disease affects about 14 million people in India and about 170 million people worldwide, making it much more common than HIV infection. Each year, there are about 35,000 new cases of hepatitis C infection and about 8,000 to 10,000 people die from the disease.[2]

When someone gets infected with viral hepatitis C (HCV), the virus enters the liver cells and uses them as a factory to replicate itself. These replicated viruses then infect more cells, and the cycle repeats.

In a very small percentage of cases (15%), the infection is acute, meaning it is short term (less than 6 months) and cleared by the body. Unfortunately, in 85% of cases, the infection becomes chronic, meaning the virus remains in the liver for more than six months (sometime lifelong) and slowly damages the liver over many years.

This is the reason why many patients infected with hepatitis C virus don't experience symptoms.

Over time, this liver damage can lead to serious consequences, including cirrhosis (or scarring) of the liver, end-stage liver disease and some types of liver cancer.

GENOTYPES

Hepatitis C virus is not a single type of virus. There are different genotypes of hepatitis C with numerous subtypes. How common the different strains are varies from country to country.

The most common in the UK, Europe, Asia and USA are types 1, 2 and 3. Subtypes are labeled A, B and C. It is possible to be infected again with a different genotype, or to be infected with two genotypes at the same time. In India, genotypes 2 and 3 are most common.

HOW IS HEPATITIS C DIAGNOSED?

1. Blood testing:

- Hepatitis C antibody test (Anti-HCV):

  The anti-HCV test looks for antibodies to the hepatitis C virus that are produced by the body's immune system in response to the virus. This test is freely available.

2. Adapted from WHO Fact Sheet Data

Published for Public interest with permission from : **Prof. S. K. Acharya**,Department of Gastroenterology and Human Nutrition-AIIMS

ACKNOWLEDGEMENTS

This monsoon news letter will coincide with the 6th KOST camp. I have been extremely lucky to be able to hold these camps so successfully in Odisha. A successful camp needs a lot of hard work and team effort. I will be failing in my duties if I do not acknowledge all those who helped in the success of these camps.

I thank Mr. Pratap Jena, Mr. Budhan and al the members of PARAMOUNT CLUB for having organized this Sixth camp at Bhubaneswar. Dr. Tanmaya Panda and Dr Rupalita Sivaji Patnaik have been instrumental in aranging doctors for the camp.

I thank all my friends who have spared their valuable time for their humane service. All my friends from NOBEL 2005 have always supported wholeheartedly for the success of the camps.

All members of SUSHRUTAM (my medical college friends) have gone out of their way by spending their time, energy and money to come and offer their services. I thank my family for their constant encouragement and support to continue these activities.

I am grateful to Gaurav Anand , Sumanta and his team from Stadchem Pharma,who have always gone out of their way to provide logistics for the camps. Other pharmaceuticals have helped me with medicines namely Wanbury, J&J, Lupin, Intas, Zuventas, Novartis, Sun Pharmed, Macleods Pharma, Reddy Lab & many others

I thank my Delhi team namely Rakesh Bhusan, Sandeep Dhull, Sailesh Tiwari, Satish Kumar and others for arranging medicines for the Camp.

I thank the patients attending the camps for having put their trust in us and encouraging us to do better everytime.

Last but not the least, I am really thankful to SILU my most reliable & punctual driver, for whose help I have been able to do so much work with so little time.

(Shankar Acharya)

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DENGUE: PREVENTION AND CONTROL

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"Dengue" pronounced as "den gee" is a major public health problem in India. It is an acute viral illness caused by a member of Flavi-virus group belonging to family "Togaviridae".It is also known as "|Break bone fever" and known in India since a very long time .There are four strains of the virus but infection with one does not confer immunity to the remaining three. It is transmitted by the bite of infected female Aedes Aegpti mosquito. The Aedes mosquito becomes infective by feeding on a patient from the day before onset to the 5th day of illness.

It is the most emerging viral disease of the tropical and sub-tropical regions affecting urban and peri-urban areas.In India, the risk of Dengue has increased due to rapid urbanisation, life style changes and poor water management. Improper water storage practices in urban,peri-urban and rural areas have led to rampant proliferation of mosquito breeding sites.

Environmental factors

Rainfall and water storage are two important criteria for breeding of Aedesaegptii population. Its life span is influenced by temperature and humidity, survives best between 16 -30 deg C and a relative humidity of 60-80 percent. It breeds in artificial containers in and around houses like flower pots, water coolers, discarded tyres, broken coconut shells, broken vessels and anywhere water can get collected artificially etc

The following categories of persons are at a higher risk of severe disease and its complications: Infants and elderly, obese persons, pregnancy, peptic ulcer disease, congenital heart disease,chronic diseases like diabetes, high blood pressure, asthma, chronic renal failure, liver cirrhosis and patients on steroids.

Symptoms of classical Dengue fever

All ages and both sexes are equally affected. Children usually have a milder disease than others. Dengue virus infection may be asymptomatic or may cause sudden onset of high grade fever with chills, severe headache, muscle and joint pains and rash.Within 24 hours ,pain behind the eyes(retro-orbital pain) develops particularly on movement or pressure on the eyes .Other common symptoms include loss of appetite, extreme weakness, constipation , abdominal pain, sore throat and general depression.

The severe forms of Dengue are dengue hemorrhagic fever and severe dengue. Along with the above symptoms patient may have hemorrhagic manifestations and may have evidence of spontaneous bleeding in skin or other organs (black tarry stools, bleeding from nose, gums etc) and abdominal pain. In Dengue shock syndrome, in addition the patient may have signs of shock with weak pulse, increased heart rate, cool extremities, lethargy, restlessness, decreased blood pressure (hypotension) with systolic blood pressure <80 mm Hg in children <5 years, or 80 to 90 mm Hg for older children and adults.

Laboratory Diagnosis

Rapid and accurate diagnosis of dengue is of utmost importance. Dengue can be diagnosed by various laboratory tests such as isolation of the virus, serological tests and molecular methods. The most commonly used tests are Non-structural protein 1 ELISA (NS1) test wherein viral antigen can be detected in the serum of dengue patients upto 6 days after the onset of illness and IgM capture enzyme –linked immunosorbent assay(MAC –ELISA) .This test is most commonly employed in diagnostic laboratories and in commercially available diagnostic kits.

Hematological parameters like platelet count and hematocrit are important and should be closely monitored.

Management of Dengue fever

Since there is no specific treatment, management is only symptomatic and supportive therapy.

1. The patient should be encouraged to take a lot of oral fluids like oral rehydration solution (ORS),fruit juice, other fluids containing electrolytes and sugar to replace losses from vomiting and fever.
2. Paracetamol may be given for high fever with the interval for dosage not less than 6 hours. Aspirin, Ibuprofen and other non-steroidal anti-inflammatory (NSAIDs) should NOT be given as they may aggravate gastritis and bleeding.
3. The patients family/care-givers may be given instructions to bring the patient immediately to hospital if he/she develops any of the following signs/symptoms: No clinical improvement, patient is deteriorating further, severe abdominal pain, persistent vomiting, lethargy, irritability, cold clammy extremities, restlessness, bleeding(black stools or coffee –ground vomiting),not passing urine for more than 4-6 hours.

Patients of Dengue hemorrhagic fever, dengue shock syndrome need to be hospitalised and managed as per the severity of illness.

Control measures

There is no vaccine at the moment to prevent the disease by immunisation. Hence, it is of utmost importance to implement vigorous control measures.

1.Mosquito control

The vectors of Dengue breed in and around houses. So they can be controlled by individual and community action by using an “Integrated Approach”. This approach tries to avoid excessive use of any one method(eg insecticides) but tries to combine one or more methods to maximise the results.

i. ANTI-LARVAL MEASURES

a) Environmental control: This is the most important step in reducing the mosquito breeding places. For Aedes mosquito, the environment should be cleaned and got rid of all water holding containers like broken bottles, discarded tins, tyres, empty pots, coconut shells and similar other artificial collections of water. A small amount of water left in any of the artificial containers provides an excellent breeding place for Aedes mosquito. It is very important to clean and dry the water coolers thoroughly every week. When they are not in use, water should be removed and the cooler kept clean and dry.

b) Chemical control: Application of oil to water like fuel oils, diesel oil, and kerosene oil kills larvae and pupae within a short time. A special oil called as “Mosquito larvicidal oil” (MLO) is also available. Since the life cycle of a mosquito is around 8 days, oil can be applied once a week on all breeding places specially in water coolers which cannot be cleaned and dried every week.

Synthetic insecticides like Abate, Fenthion and chlorpyrifos are very effective larvicides. Abate (Temephos) at a concentration of 1 ppm is a very effective and least toxic larvicide for Aedes larva.

ii.ANTI-ADULT MEASURES

a) Residual Sprays

Residual insecticides like spraying the houses with DDT,malathion ,lindane is effective in killing adult mosquitoes.

b) Space sprays:In this the insecticidal formulation is sprayed in the atmosphere in the form of mist or fog to kill the mosquitoes. The most common space spray is pyrethrum extract from pyrethrum flowers. The active principle “pyrethrin” is a nerve poison.

iii. PERSONAL PROTECTION AGAINST MOSQUITO BITES

a) Mosquito nets :In many parts of the country people use mosquito nets to prevent mosquito bites which is very effective personal protection method and should be encouraged.

b) Screening: Screening of buildings/houses with copper or bronze gauge though expensive provides excellent results.

c) Repellants:Diethyltoluamide (deet) is an all purpose mosquito repellant applied on exposed parts of the body.

This short article, though not exhaustive is only to apprise the readers and to create awareness about Dengue and the simple cost effective measures used to control the vector of Dengue ie the AedesAegpti mosquito. Since it is a viral disease and mostly self-limiting, antibiotics have no role. We do not have any vaccine at present for effective immunisation. So the best strategy is to aggressively implement the mosquito control measures. Each one of us individually and collectively can keep our environment clean and prevent the breeding of Aedes mosquitoes. This will not only prevent dengue but other mosquito borne viral diseases like Chikungunya fever,Chikungunya heaomrraghic fever etc.

GLIMPSES OF FIFTH HEALTH CAMP AT KALARAHANGA

Next avtivity of KOST along with Ortho Spine doctors of Sir Gangaram will be the great delhi run 6km. in the Airtel Half Marathon on **15th Dec., 2013 starting from JLN Stadium.** Around 50 guest runners who have been operated for Spine Surgery will participate in the race to create awareness about spine care. Anyone interested to participate are welcome to contact me. Please donate generously for this cause.

- Dr.Shankar Acharya

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