



Dengue Alert

Many features and reports to prevent and combat dengue have been published. Yet it is spreading in the country at an alarming rate. People are very much anxious about it. But a little consciousness helps us to triumph over dengue and can stop its spreading. About 230 patients are now getting treatment in different hospitals, according to Dhaka City Corporation (DCC). Immediate and appropriate treatment needs for the recovery of dengue patient. So we should not get scared.

DR MD KAFIL UDDIN CHOWDHURY

Dengue fever and dengue haemorrhagic are viral diseases transmitted by Aedes mosquito. Dengue virus, a member of Flavi virus, causes dengue. Dengue fever is more common in late July in our country and gradually increases its incidence for the next 2-3 months.

Transmission

The disease is transmitted from one infected person to another healthy person by Aedes aegypti and Aedes albopictus, species of Aedes genus of mosquito.

It usually breeds in artificial accumulations of water in and around human dwellings, such as water found in discarded tins, broken bottles, fire buckets, flower pots, coconut shells, earthen pots, tree holes and the like. They are most abundant during rainy seasons and bite chiefly during the day.

Clinical features

Generally all the physical sign, symptom and alteration of all the biochemical events in the human body produced by Dengue virus are collectively called "Dengue

syndrome". For the better management purpose this Dengue syndrome is further divided into three groups. These groups are --
i) Classical Dengue fever
ii) Dengue haemorrhagic fever and
iii) Dengue Shock syndrome.

Dengue fever usually starts suddenly with a high fever, rash, severe headache, pain behind the eyes, and muscle and joint pain. The severity of the joint pain has given dengue the name "Break-bone fever." Nausea, vomiting, and loss of appetite are common. A rash usually appears 3 to 4 days after the start of the fever. The illness can last up to 10 days, but complete recovery can take as long as a month. Older children and adults are usually sicker than young children.

Most dengue infections result in relatively mild illness, but some can progress to dengue hemorrhagic fever. With dengue hemorrhagic fever, the blood vessels start to leak and cause bleeding from the nose, mouth, and gums. Bruising can be a sign of bleeding inside the body. Without prompt treatment, the blood vessels can collapse, causing shock (dengue shock syndrome). Dengue hem-

orrhagic fever is fatal in about 5 percent of cases, mostly among children and young adults.

Diagnosis

For diagnosis of Dengue physician's clinical suspicion is enough. But for prognostic purpose, some laboratory tests are important. As there are no significant biochemical changes appear in Dengue on first three days, it is better to done the laboratory test after 3-5 days of the dengue fever for confirmation of diagnosis. The base line laboratory test for dengue fever is complete blood count including platelet count as well as PCV (Packed Cell Volume). In addition to above tests total leukocyte count is also important.

Treatment

At first proper Bed rest is required. In febrile phase only paracetamol tablet may be taken to reduce the body temperature. Tepid sponging with water at room temperature is proved to be good to reduce the fever. If fever is associated with profuse and frequent vomiting then the patient should be given plenty of water as well as liquid diet (such as normal saline, fruit juice, green cocnut

water, etc.) to correct the water loss from the body. The patient should be properly observed for 48 hours after subsidence of fever for early detection of complication of Dengue syndrome. If the following symptom such as severe abdominal pain, passage of blackish, soft, foul smelling stool, passage of blood through the vagina, vomiting of blood, bleeding from nose or gum, cold clammy skin of leg and hand present alone or in combination, then patient must be referred to hospital for proper management under evaluation. In case of infant and children. If there is convulsion or even there is a history of convulsion, then the patient must be referred to hospital for better management. Dengue haemorrhagic fever proper fluid therapy is required both through the mouth and intravenous route to maintain the fluid and electrolyte balance of the body. In case of intravenous fluid normal saline is proved to be better than others. If platelet count in patient in blood is less than 10,000/mm³ of blood, then the platelet concentrate is required to prevent and reduce the uncontrolled, spontaneous bleeding. If the platelet concen-

Do's and Don'ts

Aspirin and other NSAID drugs should not be used in Dengue to reduce the fever. Because they can cause a dangerous condition named "Ryes syndrome" in children. They can also cause gastric irritation as well as bleeding from stomach that may complicate the Dengue fever. Any antibiotic should not be used, because the use of antibiotic may complicate the Dengue fever more. In case of Dengue shock syndrome, the use of Dopamine, corticosteroid and carbazochrom for treatment are not successful.

Prevention and personal precaution

The best way to prevent dengue fever is to take special precautions to avoid contact with mosquitoes.

To control the growth of Dengue the environment should be cleaned up and get rid of water holding containers such as discarded tins, empty pots, broken bottles, coconut shells and similar other collections of water. Proper care must be taken so that water

accumulation in unwanted places should not last for 5 days. To protect the human body from the mosquito bite we can use various materials such as spray, mat, mosquito net etc. In addition by the use of mosquito net for the Dengue patient is helpful to prevent spreading of Dengue from a diseased person to healthy person. As Aedes mosquito bite mainly in the morning and late evening. So it is better to use mosquito net during sleep not only at night but also in both morning and late evening to protect the human body from mosquito bite.

While there are many methods of mosquito control, experts now recommended an "Integrated approach" that is an approach which tries to combine one or more methods with a view to obtaining maximum results with minimum input and also to prevent environmental pollution with toxic chemicals and development of insecticide resistance.

The writer is working at Chittagong Medical College Hospital.

Did You Know

One cigarette may trigger smoking urge years later



Preteens who have tried smoking just once have an increased risk of becoming a regular smoker years later, UK researchers report in their study, published in the journal Tobacco Control.

Dr Jennifer Fidler of University College London and her colleagues found that young people who reported trying just one cigarette at age 11 were twice as likely to become regular smokers by age 14, even if they did not have a single puff in the intervening years.

While there are many possible explanations for the findings, Fidler said, "I think there's a lot to be said for the fact that having smoked at an early age breaks down barriers which might prevent a person from trying cigarettes later on." For example, she notes, kids who've had a first puff may feel more comfortable holding a cigarette and less intimidated about smoking in front of their peers.

"The sort of person who's likely to try cigarettes at a very young age is also the sort of person who's likely to try it again at a later time point, when the environmental situation might be better," Fidler added.

She and her colleagues also suggest that a first cigarette might change reward pathways in the brain, making a person more vulnerable to the effects of nicotine later on

-- what they term a "sleep effect," or "period of dormant vulnerability."

No matter what the reason, it may be "more important to try and prevent children from trying a first cigarette than we previously thought," Fidler said.

Fidler and her team followed an ethnically and economically diverse group of nearly 2,000 students who completed questionnaires annually from age 11 to age 16. Fourteen percent reported that they tried smoking at age 11. The next year, these children were more than six times as likely as those who hadn't smoked to be regular smokers.

The increased risk gradually fell, but even 3 years later, at age 14, teens who had tried cigarettes once as 11-year-olds were still more than twice as likely to be smoking regularly.

The findings show, Fidler said, that it is crucial to direct anti-smoking interventions toward children who admit to having experimented with cigarettes. "There is a group of smokers out there who appear to be nonsmokers but they have tried smoking once several years ago, and we know now that they are more vulnerable to smoking."

Source: Tobacco Control

For asthmatics, laughter is no laughing matter

REUTERS HEALTH, New York

More than half of people with asthma have symptoms that are triggered by laughter, according to new study findings presented.

Laughter is "one more trigger in a long list of triggers" for asthma, study author Dr Stuart Garay of the New York University Medical Center in New York told.

However, among people with symptoms brought on by laughter, nearly half said they could laugh attack-free when their asthma was under better control. To Garay, this suggests that people who get asthma symptoms from laughing should consider tweaking their medicine to improve control of their condition.

Laughter-induced asthma "may be a sign that you need some adjustment in your medication," Garay said.

For the study, he and his colleagues asked 235 people with asthma if laughter affected their asthma.

They found that 56 percent of people developed symptoms after laughing, most commonly cough and chest tightness. Most people said they experienced symptoms

within 2 minutes of laughing, with many saying their symptoms kicked in almost immediately.

Two-thirds of study participants with laughter-induced asthma said that simply giggling could bring on their symptoms.

However, 47 percent of people with asthma brought on by laughter said that when their asthma was under good control, they could laugh all they want, and have no symptoms. "When their asthma's not controlled, it's easier to bring out these symptoms," Garay noted.

He emphasised that no one should try to live his life without laughter in order to avoid an asthma attack. "I want people to laugh," he said.

He added that people with laughter-triggered asthma also were more likely to experience symptoms from exercise, suggesting that exercise and laughter may trigger symptoms for similar reasons. However, Garay said, it normally takes up to 8 minutes for people to develop symptoms after exercise, while laughing can bring on symptoms much more quickly.

Medical Update

Electronic lenses could replace bifocals

Researchers have developed an electro-optic lens that can shift its focusing power with the flick of a switch, and may someday replace bifocal lenses.

Dr Nasser Peyghambarian of the University of Arizona and colleagues report the results of tests of prototype spectacles in the online Early Edition of the Proceedings of the National Academy of Sciences.

The lenses consist of a liquid crystal sandwiched between two pieces of glass, similar to familiar LCDs like those found on digital clocks. In this case, instead of showing numbers, the crystal contains a circular array of transparent electrodes, which

turn the glass into a lens when a 2-volt charge is applied.

When the voltage is turned off, the lens is plain with no focusing power and does not interfere with distance vision.

In their article, the researchers report on a 1-diopter version of the lens, but Peyghambarian told he and his colleagues have made a number of lenses of different strengths.

The next step, he said, will be to develop a mechanism that will allow the lenses to focus automatically, similar to a camera's range-finding mechanism.

Source: Proceedings of the National Academy of Sciences

Your Doctor



Prof Dr Anwara Begum
Gynaecologist
Former Head of the Dpt.
Dhaka Medical College Hospital
Dhaka

Answer:

Most girls begin to menstruate at age 12 or 13. Some girls will start a few years later. However, girls who have not had their first menstrual period by age 16 -- a condition called primary amenorrhea -- should be evaluated by a doctor. If your daughter is of normal height and weight, has developed secondary sexual characteristics such as breasts and pubic hair -- and has no pelvic discomfort, you likely have nothing to worry about. Your doctor may simply advise you to wait for nature to take its course. However, if your daughter has not developed secondary sexual characteristics by age 16 or early changes have not yet continued, the doctor may recommend further testing.

Possible causes of primary amenorrhea include pituitary gland disorders, disorders of the hypothalamus (an area at the base of the brain that regulates the menstrual cycle), chromosomal abnormalities, such as Turner's syndrome or Sawyer's syndrome, Absence of or abnormal development of reproduc-

tive organs.

Dear Doctor

I have been married for last 6 months. My wife has an inverted nipple. I heard that inverted nipple is a sign of cancer. She has a family history of breast cancer but has so far tested negative for the disease. Is this a health concern? Please answer me. Arifuzzaman Noman Rajbari

Answer:

A nipple that has always been turned inward (inverted) is usually not a medical concern and typically need no treatment. However, if a nipple that is not normally inverted turns inward, it should be checked by a doctor. A newly inverted nipple can be a sign of a serious underlying condition, such as cancer.

Other causes of an inverted nipple include -- breast surgery involving the nipple or the areola, the dark skin around the nipple. Infection of the ducts beneath the areola (periductal mastitis), widening (dilation) or inflammation of the milk ducts beneath the nipple (mammary duct ectasia).

NANOTECHNOLOGY IN MEDICINE

Tiny things for big advances

DR ISHWOR SHARMA

Nanotechnology refers to the interactions of cellular and molecular components and engineered materials typically clusters of atoms, molecules, and molecular fragments at the most elemental level of biology.

Nanoscale devices are smaller than human cells (10,000 to 20,000 nanometers in diameter) and organelles and similar in size to large biological macromolecules such as enzymes and receptors. For example-- haemoglobin is approximately 5 nm in diameter, while the lipid bilayer surrounding cells is on the order of 6 nm thick. Nanoscale devices are smaller than 50 nanometers can easily enter into most cells, while those smaller than 20 nanometers can transit out of blood vessels. As a result, nanoscale devices can readily interact with biomolecules on both the cell surface and within the cell, often in ways that do not alter the behavior and biochemical properties of those molecules.

Nanotechnology is the manufacturing technology of the 21st century that helps us to build a broad range of complex molecular machines (including molecular computers). They could remove obstructions in the circulatory system, can kill cancer cells, or take over the function of sub cellular organelles. Just as today we have the artificial heart, so in the future we could have the artificial mitochondrion.

An application: killing cancer cells

Given such molecular tools, we could design a small device able to identify and kill cancer cells. The device would have a small computer, several binding sites to determine the concentration of specific molecules, and a supply of some poison which could be selectively released and would be able to kill a cell identified as cancerous.

The device would circulate freely throughout the body, and would be capable of determining whether the binding sites were or were not occupied by periodical collection of sample. Today's monoclonal antibodies are able to bind to only a single type of protein or other antigen, and have not proven effective against most cancers. The cancer killing device suggested here could incorporate a dozen different binding sites and so could monitor the concentrations of a dozen different types of molecules. The computer could determine if the profile of concentrations fit a pre-programmed

"cancerous" profile and would, when a cancerous profile was encountered, release the poison.

As acoustic signals in the mega hertz range are commonly employed in diagnostics (as in ultrasound imaging of pregnant women), the ability to detect such signals would permit the cancer killer to safely receive broadcast instructions. By using several macroscopic acoustic signal sources, the cancer killer could determine its location within the body such as a radio receiver on earth can use the transmissions from several satellites to determine its position (as in the widely used GPS system).

The cancer killer could thus determine that it was located in (say) the big toe. If the objective was to kill a colon cancer, the cancer killer in the big toe would not release its poison. Very precise control over location of the cancer killer's activities could thus



be achieved.

Providing oxygen-a life saving device

A second application would be to provide metabolic support in the event of impaired circulation. Poor blood flow caused by a variety of conditions can result in serious tissue damage. A major cause of tissue damage is inadequate oxygen supply. A simple method of improving the levels of available oxygen despite reduced blood flow would be to provide an "artificial red blood cell."

Full replacement of red blood cells would involve the design of devices able to soak up and compress oxygen when the partial pressure was above a high threshold (as in the lungs) while releasing it when the partial pressure was below a lower threshold (as in tissues using oxygen). In this case, selective transport of oxygen into an internal reservoir would be required. Compression of oxygen would presumably require a power system, perhaps

Health Tips

STAR HEALTH DESK

- Have a glass of water by your bed, and attempt to drink eight 8 oz glasses of water a day.
- At breakfast mix fruit juices with 50 percent water, to aid absorption, prevent rapid sugar levels in the blood, and to save money.
- Make sure you don't skip breakfast, unless you get out of bed after 12 o'clock, then go straight for lunch.
- Spend time at breakfast to plan out your day, take each day one day at a time, but make the most of them, planning is the key to success.
- Smile, laugh be happy, don't take everything in life too serious, remember its alright to fart, apparently we all do it on average 13 times a day, and that includes ladies.
- If you're going to fart, and you're in public, cough at the same time to cover up the noise. This is also a

good stomach exercise.

- Take a good quality multi-vitamin / mineral supplement each morning. A recent survey by the American National Food Council revealed that not one person from 21,500 consumed their optimum RDA of vitamins.
- If you feel tired just after eating lunch, (the 2 o'clock slump), you are probably eating too much refined/processed carbohydrates, and your body has become carbohydrate sensitive. Try and eat more complex carbs, and add more protein and fibre to your meals. Oh yeah, don't forget to drink that water.
- Throw away your scales. Work on how you look and feel, not what you weigh, aim to lose weight in the form of unhealthy body fat.
- When trying to lose fat, aim for a maximum of 1 1/2 pounds a week.
- If spot reducing worked, all typists would have skinny fingers.