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TALKING ABOUT FEVER AND THE HARMFUL MEDICINES

PUNYABRATA GOON

Years ago that was my probationary period as a house-staff in a medical college hospital. I recollect a pathetic incident. A child, two to three years old and running very high fever, was brought to the paediatrics department. After preliminary examination the child was given, with a view to bringing down the high temperature, novalgin injection. But, within an hour, the father of the child came running to us and reported about the deteriorating condition of the child. But all our efforts failed and, to our sorrow, the child died.

In the meantime I took up an assignment at the Chattisgarh Mine's Labour Hospital at Delhi. There I encountered a novel experience. I began noticing any patient who was brought to our hospital here, even though he ran high fever, was not immediately given novalgin injection. Rather, a simple, indigenous treatment followed. He was advised his body to be rubbed, as a preliminary step, with little-wet soft towel. Occasionally, if situation so demanded, a few paracetamol tablets were given to the patients.

I thus now feel that everybody should know what does exactly the 'fever' mean and in every case the wrong treatment should always be avoided.

WHAT IS FEVER?

Fever is not a disease, one should know, it is only a symptom, we may define. Sometimes, for various reasons, the body temperature rises. That is what we call fever. We should bear in mind, in this connection, that the normal body

temperature is 36.6—37.2° Centigrade or 98—99° Fahrenheit. If the temperature rises above 37.2°C or 99°F, then we may understand the temperature as fever. The fever is called hyperpyresia if the temperature rises above 107°F.

TYPES OF FEVER

There are various types of fever. And these can be defined as follows :

(i) *Continued Fever* : In such a case temperature does not remain normal. It varies. This variation is noticed in 24 hours by an increase in temperature, which is 1°C or 1.5°C.

(ii) *Remittant fever* : In such a case the temperature remains above normal. The temperature may increase by 2°C or a little less than that.

(iii) *Intermittant fever* : In such a case the temperature persists for a few hours only.

Short-term fever, such type of fever does not continue for more than two weeks.

Long-term fever : it is not restricted within two weeks.

THE USE OF THERMOMETER

A thermometer should always be kept ready in hand, but remember that should be a clinical thermometer. Most thermometers which show fahrenheit scale are sold in the market. Before use the thermometer should always be very carefully washed in soap-water, and bring down the mercury to 94°F by giving it a few jerks. There is another type of thermometer called the rectal thermometer. The thermometer used under tongue in the mouth shows temperature

a little higher by 1 degree than thermometers used under armpit.

HOME TREATMENT OF FEVER

As a preliminary step the patient should be kept at rest on bed, but one should not be swayed by the prevailing notion that the body of the patient should be covered with rags. Sometimes, however, the patient may violently shiver. That's a different case. Otherwise, in the case of normal fever, one should have less clothing and should be under sufficient air. The patient should drink sufficient water and other liquid food. Sponze the body with cold or tepid water. The process should continue till the temperture comes down to 100.4°F. If the temperature rises to 105°F, delirium starts with the patient; and convulsion starts with the children if the temperature is 106°F. And, 108°F temperature can cause severe brain damage,

MEDICINES THAT BRING DOWN TEMPERATURE

Any medicine cannot and should be not taken to bring down high fever. We can only advise you to take paracetamol as the safest medicine. But paracetamol is sold in the market under different brand names and they are calpol, crocin, metacin, malidens, pyremol, pyrigesic and the like. Paracetamol is obtained in tablets and, for the children, in syrup. Tablets generally contain 500 mg. paracetamol, and syrup contains, for one teaspoon full, 5 ml or 120 or 125 mg. paracetamol. We give you the following dose for paracetamol:

Adults : 1 to 2 tablets
8 to 12 years : 3/4 to 1 tablet
3 to 7 years : 1/2 tablet
6 months to 2 yrs : 1/4 tablet or 1 teaspoon syrup
Less than 6 months : 1/8 tablet or 1/2 teaspoon syrup

The interval should be 8 hours

ASPIRIN SHOULD NOT BE TAKEN

In chemical composition aspirin is similar to paracetamol. But aspirin should not be taken in the case of fever. In many cases it has been found that aspirin causes allergy. Children are very much affected by continuous use of aspirin. Aspirin should be avoided during pregnancy. It may cause anaemia.

THE USE OF ANALGIN SHOULD BE BANNED

Analgin is widely used, yet it is very much a harmful medicine. Analgin reduces the number of agranulocytosis, that is, white blood cells are decreased in number. The injection of analgin brings down abnormally the blood-pressure. It may even cause anaphylactic symptoms. Analgin can even cause peptic ulcer.

Analgin is forbidden in countries like Denmark, Norway, Sweden, Great Britain, Australia, U.S.A. Venezuela, Singapore etc. The use of analgin is much restricted in countries like Israel, Germany, Saudi Arabia, Japan, Philippines, Peru, Greece and Mexico. But, strangely enough, analgin is openly sold in the market in India.

ANALGIN AND ITS ALLIED MEDICINE :

You should be well-advised to desist from using the following medicines :

Analgin	Dolonurotion	Analog
Baralgin	Capagin	Cemizol
Algesin O	Dolopar	Inflagin
Orphalgin	Oxalgin	infiaryl
Pamagin	Paragenol	Paralgin
Spasmizo	Synalgesid	Ultragin
BuscopanCampo	Doralgin	Novalgin
Neogene	Spasmokon	Zimalgin

Dr. Goon is associated with various peoples' health programmes.

VITAMIN

Vitamin is the organic substance that must be supplied in small quantities in diet for normal growth and development. Diseases caused by vitamin deficiencies were successfully treated and prevented long before the vitamin concept was developed. Early Greek, Roman, and Arabic physicians prescribed goat's liver (rich in vitamin A) for night blindness. The British physician James Lind in 1757 demonstrated that fresh fruit juice, particularly lemon juice, prevents scurvy C. As a result of Lind's work, lemon juice or lime juice was eventually included as a regular of the British sailor's diet.

Knowledge of the important vitamins came in two phases : (1) recognition of the role of vitamins in disease, and (2) recognition of their importance for normal growth.

Vitamins in Disease :

The first phase began in 1885, when the Japanese physician Kanehiro Takaki introduced barley into the diet of Japanese sailors. At the time it was estimated that 40% of the navy, which subsisted largely on polished rice, suffered from beriberi. Takaki's innovation eliminated beriberi from the Japanese fleet, but he improperly attributed his success to the additional protein contained in the barley.

In 1911 the Polish biochemist Casimir Funk originated the "vitamine" theory of food substances that were essential to prevent certain diseases. He believed he had isolated the pure antiberiberi material and labeled it a "vitamin," thinking it was an amine and vital to life. The logic does not apply, since many vitamins are not amines, but the name has persisted, minus the final e.

Vitamins for Normal Growth :

The essential role of vitamins in normal growth

was demonstrated by the English investigator F. G. Hopkins, who found that rats would not grow even when given adequate proteins, fats, carbohydrates, and minerals unless small amounts of milk or other foods were added to their diet. The growth-promoting effects of these foods were caused by the presence of unknown constituents (vitamins) in low concentrations. In 1950 microorganisms were introduced as an experimental tool in vitamin studies.

Naming the Vitamins :

The alphabetic naming of vitamins was introduced early in the 20th century to avoid the use of such cumbersome terms as "beriberi preventive factor". The fat-soluble material that prevented eye disorders from developing in rats was labeled vitamin A. The substance that prevented experimental beriberi was named vitamin B, and the antiscorbutic substance was called vitamin C. Vitamin B was later found to be a mixture of several vitamins, which were designated by subscripts—vitamin B₁, vitamin B₂ and so forth.

VITAMIN A

Vitamin A is present in high concentration in fish-liver oils. Cod-liver oil is the commonest source. Vitamin A is important in vision. It is also necessary to maintain the normal structure of the skin and the tissues lining the glands and intestinal tract. Vitamin A deficiency results in damage to the eyes, causes night blindness. Other symptoms include eruptions and dryness of the skin. But excessive intake of Vitamin A may produce such symptoms as excessive bone fragility and enlargement of liver and spleen.

VITAMIN D

Vitamin D exists in two forms. Vitamin D₂ is produced by the action of sunlight of 7-dehydrocholesterol in the skin. Vitamin D₂ or calciferol, is produced commercially by the ultra violet radiation of the plant steroid ergosterol. Vitamin D regulates the absorption of calcium and phosphorus from the intestines and is essential for normal bone growth.

VITAMIN E

It is widely distributed in human tissues. Vitamin E deficiency causes sexual impotency and weak muscles.

VITAMIN K

Vitamin K is synthesized by intestinal bacteria and is not ordinarily required in the human diet. The deficiency is caused by the decreased clotting power of the blood and a tendency to bleed profusely from minor wounds.

VITAMIN B₁

Vitamin B₁, or thiamine, occurs in the function of enzyme systems. It enables the body to convert carbohydrates to energy. It is also important for the normal functioning of the nervous system.

VITAMIN B₂

Vitamin B₂, is called riboflavin. Its deficiency in man causes inflammation of the tongue. Its deficiency also causes headache, loss of memory.

VITAMIN B₃

Vitamin B₃ is also called pantothenic acid. Its deficiency causes skin-disease, greying of hair and short stature.

VITAMIN B₁₂

Vitamin B₁₂, or cyanocobalamin, occurs in high concentrations in liver. It is an essential component of cell nuclei. Vitamin B₁₂ deficiency causes anaemia.

VITAMIN C

Vitamin C, or ascorbic acid, protects certain other Vitamins from destruction in the tissues, particularly folic acid coenzymes. Vitamin C deficiency causes scurvy, a disorder marked by loosening of the teeth, anaemia, edema and joint pain. Its presence causes the bones to grow strong.

FOLIC ACID

Folic acid is essential for the manufacture of body cells. Folic acid corrects the anaemia. It is synthesized by intestinal bacteria.

Vitamin A is found in leafy green vegetables.

Vitamin D is found in butter, egg-yolk, fish-oil.

Vitamin E is found in green vegetables, milk, butter.

Vitamin K is found in vegetables, tomatoes, fruits, fish.

Vitamin B₁ is found in eggs, meat, milk, cabbages, bananas.

Vitamin B₂ is found in vegetables, milk.

Vitamin B₃ is found in eggs, meat, milk.

Vitamin B₁₂ is found in eggs, meat, milk.

Vitamin C is found in lemons and oranges, vegetables.

Folic Acid is found in green leaf, soyabean, meat-liver.

CAPSAICIN

Capsaicin, the "hot" ingredient in chillies, sets your tongue on fire all right, but new research suggests that it can soothe arthritic pain as well. Luckily the therapy does not require you to eat them.

University of Wisconsin researchers used a 0.075 percent ointment on 21 patients suffering from either rheumatoid arthritis or osteoarthritis. The subjects reported that it reduced tenderness by 30 percent and actual pain by 40 percent. Applying the ointment four times a day initially caused a burning discomfort of the skin, but this eased with further use. Clinical Therapeutics reports another study of 101 patients with arthritic pain in the knees. Some applied a 0.025 percent capsaicin cream, while others were given a placebo cream. Sixty-nine percent of the capsaicin group reported a 21 percent decrease in pain levels by the end of the first week. By the end of four week there was a 57 percent improvement.

While capsaicin does not cure arthritis, researchers declare that it can provide significant relief from arthritic pain.

So capsaicin is hot stuff in more ways than one !

ORAL CONTRACEPTIVES

Oral contraceptive pills and smoking are a deadly combination. They increase the risk of having heart attacks, strokes and blockage of blood vessels (thrombosis). Never take these pills if you are above 35 years and a smoker. Pills are ideally suited for younger age groups.

HOW DOES DIETARY CHOLESTEROL AFFECT BLOOD CHOLESTEROL LEVELS ?

Dietary cholesterol is found in foods of

animal origin, such as meat, poultry, seafood, eggs and dairy products.

Blood cholesterol increases over time in most people when they eat foods high in saturated fat and cholesterol. Excessive calories may also tend to increase blood cholesterol. However, saturated fat has the greatest effect on increasing blood cholesterol levels. Dietary cholesterol appears to have less effect on raising blood cholesterol levels than saturated fat.

Recommended cholesterol intake is upto 100 mg/1000 calories with a maximum of 300 mg/day.

Blood cholesterol level is expressed in milligrams per deciliter or mg/dl. A level of 240 mg/dl is considered high from 200 to 239 mg/dl is borderline high and less than 200 is believed desirable. Your doctor may want to measure your lipoprotein levels. Lipoproteins are packages of fat cholesterol, and protein that carry cholesterol and fat through your bloodstream, and there are two types : lowdensity lipoproteins (LDLs) and highdensity lipoproteins (HDLs).

DRINK WATER TO LOOSE WEIGHT

Obesity is a major problem of this century. People are spending millions of rupees to shed weight. To overcome this wasteful expenditure we are going to let you in on a secret. There is one valuable fluid available absolutely free to charge-water! Water can be used to reduce weight. Before a meal if you drink 2-3 glasses of water, the stomach will get bloated. The capacity of the stomach is limited. Therefore, once it is filled partly with water, there will be less space left for food to enter. Certainly the intake of food will be reduced and it will hope you to reduce weight. When you drink a lot of water, sodium and water retention decreased. Therefore, drink at least 8-10 glasses of water if you really want of lose weight.

SIPPING HOT LIQUIDS

On many occasions we are served very hot liquids like tea, coffee and soups. Some people like to take them while they are very hot. You should not make slurping noise while drinking hot beverages or having soup as the air taken along with this creates gas whose natural expulsion is obnoxious. The air bubbles are expelled from above as wind. If these air bubbles (gas) get trapped in the intestines they may cause pain and discomfort. So, make it a habit to drink the liquids when they are reasonably hot. Drink them with lips closed and in contact with the spoon or container.

INSECTS IN VEGETABLES

Most of the vegetables that are bought from the market can be contaminated with insects and worms. On certain vegetables like peas, these worms may be seen easily and can therefore be discarded in cauliflower and green leafy vegetables larvae being hidden by the florets and leaves, they cannot be easily seen. In such cases the best way to get rid of these worms and larvae is to soak the vegetables in a mixture of vinegar and water for ten minutes. The ratio should be 4-5 teaspoons of vinegar (1 tsp=5ml) per litre of water.

TELL TALE HAIR

If an athlete has been taking drugs to boost his performance, a small strand of his hair can now blow the whistle on him.

Although blood and urine tests, currently in use, reveal the presence of drugs in the body, hair retains the evidence for as long as month, say researchers at the Leizig Institute for Forensic Medicine in Germany.

If the tests currently being developed, one centimetre piece of single hair will be enough

to check for dope. If the hair sample test reliably detects the presence of steroids, it will soon be used to fight drug abuse in the sports arena.

IRON SUPPLEMENTS

Practically every woman is told by her family doctor at some time or the other that she is anaemic. In such a case, some iron supplements are prescribed. Let us examine iron supplements in this issue. Various enzymes in the body depend on iron for their action. Liver, meat, eggs, chicken and fish are a good source of iron. Iron is also obtained from green, leafy vegetables, dry fruits, bread, cereals and pulses. However, occasionally dietary intake of iron may be inadequate to control the deficiency. In such a situation iron tablets become necessary. Iron tablets are freely available in the market under various brand names : Fefol, Fersolate, Hemfer, Austin, Hematrin etc. These preparations contain various concentrations of ferrous sulphate, ferrous fumanate and ferrous gluconate.

Uses :

Supplementation of iron is necessary in anaemic caused by iron-deficiency. As a result iron tablets are given in addition to a nutritious diet. A child born after full 9 month of pregnancy meets its daily requirement from its mother's milk. However, premature children may require iron supplementation to prevent deficiency.

Woman suffering from menorrhagia (heavy periods) or polymenorrhoea (frequent periods) lose large quantities of iron. These women require supplementation by tablets.

Dosage :

Tablets containing 30-100 mg of iron are to be taken 2-3 times daily by adults. In children the dose varies with their weight. Never take a double dose if you forget one dose, 3-6 mg of iron is required daily by pregnant women.

DOUBLE-DRUGS DOSE EASES ARTHRITIS

Using for the first time a two drug treatment, researchers in the United Kingdom are pioneering a fresh approach which they hope may provide the key to halting the progress of auto-immune diseases such as rheumatoid arthritis and multiple sclerosis.

Patients suffering from rheumatoid arthritis have had their symptoms dramatically reduced in experimental trials carried out by rheumatologists Dr. John Isaacs and Dr. Ann Morgan at Leeds University in northern England.

In rheumatoid arthritis—for reasons that are not yet fully understood—the body's immune system attacks and swells the patient's joints.

In mice, it is possible to turn off similar diseases using drugs called monoclonal antibodies that attack helper T-cells, the white blood cells which appear to control the immune system. But this technique has only limited success with people and Dr Isaacs believes this may be no more than a problem of timing.

The problem with using mice as a model is that the disease is induced by immunising them with a joint constituent. As a result the process has probably been going on for months or even years. The longer that an immune response has to get established, the more aggressive it becomes.

The other problem is inflammation. This is one of the body's most primitive defences that encourages the immune response to become established. Rheumatoid arthritis is a classic example of inflammation in action.

"It occurred to us that while we are trying to switch off the T-cells, inflammation is doing the opposite," said Dr Isaacs. "To overcome this burden we decided to switch off the inflammation list with a different drug."

This drug blocks the actions of tumour necrosis

factor-alpha, a chemical which appears to mediate the inflammation in rheumatoid arthritis.

Although it is not ethical to test the treatment on patients at the onset of the disease, a time when they may respond to more conventional treatments, the Leeds team members are endeavouring to treat patients at an earlier stage than experimental treatments are usually employed. This usually means a couple of years into the disease but this is several years earlier than when they started similar research some 10 years ago.

Small groups of patients are treated with the team taking a repetitive approach. This means that treatment that gives encouraging but transient results are modified and then given to the same group or to another group. Because the drugs are produced in limited quantities, only a few patients can be treated at one time and the studies are usually open (without placebo control).

"So far, the results are encouraging," said Dr Isaacs. "Although we have not achieved our stated aim of a cure, some of our patients have responded for several weeks after a brief course of treatment. Furthermore, we have been impressed by some of our patients now responding to conventional therapies which previously had not worked on them."

Although the Leeds team is the only one in the world using the double-drug approach, theoretically it could be used for treating other auto-immune diseases. The really exciting prospect is that, if this project is a success, it could revolutionise drug treatment of such conditions.

"Our approach is only possible because we are using a drug supplied by an academic unit," said Dr Isaacs, "although several of the large pharmaceutical companies have drugs similar to one or other of ours, so far none have access to both. However, they are watching us carefully. If our method works we could well see these companies getting together and combining the application of their drugs for the first time."