

## Continued efforts to reduce high-risk behaviours are needed

Annual surveillance for HIV infection and risk behaviours has been conducted among populations at elevated risk for HIV infection since 1998. The last round of surveillance was conducted between June 2003 and March 2004. Among the 10,445 persons tested 35 (0.3%) were HIV infected. Among injecting drug users participating in a needle/syringe exchange programme in one city, 4% were HIV infected and in one neighbourhood in that city, 8.9% were HIV infected. Behaviours that can transmit HIV were common. Continued efforts to reduce high-risk behaviours are needed.

This round of surveillance among persons engaging in high-risk behaviours in Bangladesh continues to demonstrate a low overall prevalence of HIV infection (<1%). There are, however, two primary causes of concern. First, there is an outbreak of HIV among injecting drug users in one city in Bangladesh. Because people who inject drugs also donate blood and are sexually active, the outbreak represents a broad risk to public health. Second, behaviours that facilitate the transmission of HIV are commonly reported among these population groups that are most at risk. Indeed the high rates of HCV among injecting drug users and the high rates of syphilis among sex workers demonstrate that risky behaviours are frequent enough to transmit pathogens. Unless behaviours change, as the prevalence of HIV increases, a large outbreak of HIV will occur in Bangladesh. Compared to previous surveillance rounds, the current data are notable for the stable overall rate of HIV prevalence but an increase in the proportion of injecting drug users who borrowed a used needle/syringe in the last week from 66% to 86%. The reduction in the prevalence of active syphilis in street female sex workers of Central City A following intervention suggests that prevention efforts can be effective.

Overall, these data suggest that public health efforts to reduce high-risk behaviour should remain a high priority. More effective programmes are urgently required to prevent an epidemic.

Source: ICDDR,B

### Did you know?



## Diabetes control crucial after heart attack

For people with type 2 diabetes who suffer a heart attack, keeping their blood sugar levels under control has a lot to do with how well they fare, according to a multicenter European study.

However, intensive insulin therapy does not seem to be necessary to achieve the best outcomes. "Insulin does not seem to be the only solution, but tight glucose control by any means is very important," Dr. Lars Ryden from the Karolinska Institute, Stockholm, expressed.

Ryden advises doctors to "use all available tools to keep blood glucose...down." He and his colleagues compared three glucose control strategies -- two insulin-based and one based

on standard practice -- to treat more than 1200 diabetic patients after they suffered a suspected heart attack.

Although blood glucose levels were lower with the two insulin therapies after the first 24 hours, glucose control over time did not differ among the three treatment approaches.

Also, the death rate did not significantly differ among the three treatment groups.

What did make a difference was the blood sugar level, with high glucose levels being "one of the most important prognostic predictors" of a patient dying.

Source: European Heart Journal

## Electrical stimulation stops epileptic seizures

People with epilepsy, especially those who do not respond to anti-seizure medication, may one day be helped with a kind of brain pacemaker. Researchers have shown that it is possible to detect the start of an epileptic seizure and to then automatically apply high-frequency electrical stimulation (HFES) to the brain to stop the seizure progressing, according to a report in the *Annals of Neurology*.

Dr. Ivan Osorio from University of Kansas Medical Center, Kansas City, told that "this is a promising, cost-effective therapeutic option" for people with epilepsy who are not helped by anti-convulsants. Osorio and his colleagues investigated the safety and efficacy of automated HFES in response to seizure detection in eight patients with epilepsy. The

experimental bedside set-up currently uses a couple of computers, commercial EEG equipment, and a stimulator attached to brain electrodes.

Overall, five of the subjects responded to the therapy, and the frequency of their seizures was reduced by about 80 percent.

Consciousness and behavior remained unchanged in all patients during delivery of a total of 1491 HFES events -- except for one patient who experienced transient unawareness -- the team reports.

The process "offers the hope of not only blocking seizures even before patients become aware of their onset, but also of short-term warning," Osorio concluded.

Source: *Annals of Neurology*

# Lantus may be a new solution for the diabetics

TAREQ SALAHUDDIN

Diabetes is a disease in which the body does not produce or properly use insulin, a hormone needed to convert sugar, starches and other food into energy.

Diabetes rates will double worldwide by 2030, to 366 million people with the disease, even if the obesity rate remains stable, an international team of researchers reported. This is a global threat now-a-days. As per WHO diabetes are the silent killer of this century and the prevalence of diabetes in South East Asia is increasing rapidly. Usually diabetic patients are suffering from numerous complications like retinopathy (defect in vision linked to diabetes), peripheral neuropathy (disease involving destruction of the tissues of the nervous system), kidney diseases, some heart diseases, stroke.

Recent evidences have proven that strict control of diabetes can reduce its complication significantly. The landmark diabetes trial UKPDS (United Kingdom Prospective Diabetes Study) has shown that every 1 per cent reduction of HbA<sub>1c</sub> can reduce 35 per cent incidences of diabetes complication like eye and kidney diseases.

Within two years of global launching "LANTUS" becomes the most popular Insulin in Amer-

ica, UK, Germany, France and most part of Europe due to its unique efficacy and safety.

LANTUS has several data in using both Type I and Type II diabetes providing better control and superior safety. That is why LANTUS is considered as the most modern physiological treatment approach for diabetic patients.

LANTUS (insulin glargine) the first long acting insulin analogue has been developed to mimic the physiological basal insulin secretion. It is designed to improve glycemic control and reduce the risk of hypoglycemia offering improved long-term outcomes for people living with diabetes.

This new molecule is going to be launched in Bangladesh by the first long acting insulin analogue has been developed to mimic the physiological basal insulin secretion. It is designed to improve glycemic control and reduce the risk of hypoglycemia offering improved long-term outcomes for people living with diabetes.

### What is insulin glargine (LANTUS)

Insulin glargine is a recombinant human insulin analog that is a long-acting (up to 24-hour duration of action), parenteral blood-glucose-lowering agent.

### Mechanism of drug action

The primary activity of insulin, is regulation of glucose metabolism.

After injection into the subcutaneous tissue, small amounts of insulin glargine are slowly released, resulting in a relatively



Optipen, a special device for the administration of Lantus



constant concentration/time profile over 24 hours with no pronounced peak. This profile allows once-daily dosing as a patient's basal insulin.

The longer duration of action (up to 24 hours) of LANTUS is directly related to its slower rate of absorption and supports once-daily subcutaneous administration. It has more prolonged absorption and a relatively con-

stant concentration/time profile over 24 hours with no pronounced peak in comparison to NPH human insulin. Serum insulin concentrations were thus consistent with the time profile of the pharmacodynamic activity of insulin glargine.

LANTUS had similar effectiveness as either once- or twice-daily NPH human insulin in reducing glycohemoglobin and

It possesses the following beneficial factors --

λ The unique, peakless Lantus profile helps reduce hypoglycaemia (reduced level of blood glucose level). As it works on basal glucose level, there is the least chance of hypoglycaemic shock that diabetic patients face frequently as a hazard of hypoglycaemic agents.

λ Continued insulin release helps

fasting glucose with a similar incidence of hypoglycemia. This is how it is more patient compliant.

### Indication and usage

LANTUS is indicated for once-daily subcutaneous administration for the treatment of adult and pediatric patients with type 1 diabetes mellitus or adult patients with type 2 diabetes mellitus who require basal (long-acting) insulin for the control of hyperglycemia.

### Benefit

LANTUS is a recombinant human insulin analog. Its potency is approximately the same as human insulin. It exhibits a relatively constant glucose-lowering profile over 24 hours that permits once-daily dosing.

LANTUS may be administered at any time during the day. LANTUS should be administered subcutaneously once a day at the same time every day. Blood glucose monitoring is recommended for all patients with diabetes.

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patients get to A<sub>1c</sub> goal (recommended level is less than 7).

λ From different studies it was observed that Lantus provides 1% greater A<sub>1c</sub> reduction than NPH.

### Precautions:

LANTUS must only be used if the solution is clear and colorless with no particles visible. The syringes must not contain any other medicinal product or residue. Mixing and diluting. LANTUS must NOT be diluted or mixed with any other insulin or solution.

### Storage:

Unopened LANTUS vials should be stored in a refrigerator, 36°F - 46°F (2°C - 8°C). LANTUS should not be stored in the freezer and it should not be allowed to freeze. Discard vial if frozen.

Opened vials, whether or not refrigerated, must be used within 28 days. They must be discarded if not used within 28 days.

### Insulin glargine in Bangladesh

Patients have been using insulin glargine in the western world for about two years. But in our country it has been introduced recently by the pharmaceutical company Sanofi Aventis in the trade name "LANTUS".

## How to cure neglected elephantiasis

UMMEE SAILA

Lymphatic Filariasis (Elephantiasis) is a disabling disease, spread by mosquitoes (Culex, Anopheles, Mansonia, Aedes); 120 million people of 83 endemic countries of the world are affected by this disease. More 1100 million people are still at risk. In 1997 World Health Organisation Assembly passed a resolution for global elimination of Filariasis by the year 2020.

Bangladesh is one of the signatories of the resolution; 70 million Bangladeshis in 32 districts are at the risk of Filariasis. Already 4.49 million people of Bangladesh are infected by this disease. Government of Bangladesh has fixed the target to eliminate the disease by 2015.

### Symptoms

Filariasis is known in Bangladesh as "Goth". The most dangerous part of this disease is that no symptom will be visible for many years but the infection may cause even kidney damage in the body.

The worst symptoms of the chronic disease generally appear

in adult men more often than in women some 10 per cent-50 per cent of men in the endemic communities, suffer from genetic damage, especially fluid-filled balloon-like enlargement of the sacs around the testes and elephantiasis of the penis and scrotum, elephantiasis of the entire leg, entire arm or breast -- swelling up several times than normal.

### Damages

- 1) Permanent long-term disability (second largest cause of disability)
- 2) Social loss (lost or broken marriage, lost parenthood opportunities)
- 3) Lost/ diminished economic productivity.
- 4) Cost of treatment is extra burden for a developing country.

### How to cure

According to WHO guideline, Filariasis could be eliminated by yearly single dose of tablet DEC (Diethylcarbamazine) and Albendazole for successive five years. These drugs are prohibited during pregnancy, less than two years old children and extremely

ill/ bed ridden patients. To maintain hygiene of the patient, toes and skin folds should be washed with water and soap, dried and medicated cream applied there.

### Bangladesh perspective

To achieve the government target of eliminating Lymphatic Filariasis by 2015, MDA (Multi Drug Administration) has been started in November 2001 in Panchagar district with tablet DEC and Albendazole covering a population of 86880. In 2002 MDA was expanded to four districts. In 2003, six districts was covered and it was nine districts in 2004. In 2005 the MDA programme is expanded to 10 districts. NGOs and donor organisations are working at the grassroots level to give common people right idea about the cause of this disease.

The people of the northern districts think that this incurable disease is inherited was curse on someone. The one and only Filaria Hospital in the world is constructed with the support of Embassy of Japan in 2002 at Syedpur in Nilphamari district. Other development partners like World Health Organisation (WHO), GlaxoSmithKline (GSK), AUS-AID, Liverpool LF support, Japan International Cooperation Agency (JICA), LEPROA (Leprosy Relief Association) are working with the government of Bangladesh to overcome the threat.

According to WHO report, nine out of 11 South East Asian countries are affected by the disease; 60 million people of the region are suffering from this. Twenty per cent of the global population are at the risk of being infected by Filariasis. Only 7 per cent of the 1100 million people are now seem protected. Only 38 out of the 83 endemic countries are covered by government, donors and national/international NGOs. Still 45 endemic countries need to be taken care of. But the goal of the World Health Organisation is to eradicate Filariasis by the year 2020. It seems a Herculean task. But we shall have to act and act now and together.

Ummee Saila is an NGO activist.

## Strokes can be prevented by healthy lifestyle

### Stroke is often misunderstood as heart attack

DR MD HABIBE MILLAT

Stroke often occurs without warning, striking the patient from out of the blue causing major disability or even death. Stroke is the third leading cause of human death in Bangladesh, after heart disease and cancer. About five lakh people in the country suffer strokes each year.

### What is a stroke?

A stroke is caused by an interruption of the blood supply to part of the brain. The medical term for stroke is cerebrovascular accident (CVA). There are mainly two types of strokes: ischaemic strokes and haemorrhagic strokes. Stroke is not a heart attack as often misunderstood.

### What causes a stroke?

A stroke is caused, either by a blockage of a cerebral artery by clot (cerebral thrombosis) or a bleed in to the brain from a burst blood vessel (haemorrhage). The most common (about 85 per cent) cause of stroke is cerebral thrombosis. A retrospective study showed 3474 stroke patients admitted in Dhaka Medical College Hospital last ten years. 78 per cent of those patients suffered from ischaemic strokes. Of the stroke patients, 35 per cent die after 'infarction stroke' within a month, while 55 percent die after brain haemorrhage.

### What is a mini stroke or TIA?

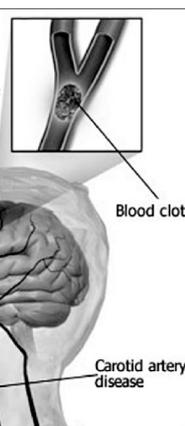
TIA stands for Transient Ischaemic Attack. It refers to the sudden onset and brief disturbance (usually for few minutes) to any of the many functions of the brain. So TIA may cause brief loss of vision or loss of speech or weakness of one side of the body. Full recovery usually occurs within few minutes and the patient is left with no obvious disability. Usually a third of those who have had a TIA get full-blown stroke within five years.

### What increases risk of a stroke?

There are certain established risk factors that put an individual at risk of stroke. The most common is increasing age. Other risk factors involves high blood pressure, high cholesterol, smoking, diabetes, overweight, irregular heartbeat (atrial fibrillation) and prior stroke (CVA) or mini stroke (TIA). Recently arsenic poisoning through contaminated drinking water is an added risk factor for stroke in Bangladesh. Approximately 10 per cent of people who have stroke will get a recurrence, most likely to occur in the first year. With the passage of time the risk of recurrence lessens considerably.

### Ischemic Stroke

Ischemic stroke is a life-threatening event in which part of the brain does not receive enough oxygen, usually due to a blood clot lodged in a cerebral artery.



### What are the effects of stroke?

When the brain is deprived of oxygen (due to ischaemia or haemorrhage) some cells die, others become damaged. The effects vary widely, depending on what part of the brain and how much brain tissue has been damaged. There may be weakness of an arm or leg, usually occurs about 80% of stroke patients. Other effects are difficulty with sensation, or loss of vision. Other people may develop difficulty with speech or concentration, difficulty in swallowing, bladder problems, or emotional problems such as depression. The majority of people survive after their stroke.

### Prevention

Knowing your risk factors and living healthfully are the best steps you can take to prevent a stroke. In general, a healthy lifestyle means control high blood pressure (hypertension), lower blood cholesterol, reduce salt and saturated fat intake, take B complex vitamins B-6, B-12 and folic acid (folate), don't smoke, control diabetes. Maintain a healthy weight, exercise regularly, eat healthy foods and manage stress. Abide by the doctor's advice if you have already had signs, or a previous stroke.

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