

Diabetes in children

PROF M KARIM KHAN

The term diabetes mellitus describes a metabolic disorder of multiple etiologies characterised by chronic hyperglycemia with disturbances of carbohydrate, fat and protein metabolism resulting from defects of insulin secretion, insulin action or both. Type 1 diabetes mellitus is the most common endocrine metabolic disorder of childhood and adolescence, with important consequences for physical and emotional development. 10% of all diabetes are childhood diabetes.

Globally 15 million children suffers from Diabetes. Polyuria, polydipsia, polyphagia, fatigue and weight loss are the predominant features of diabetes in children. Sometimes they may present with Diabetic ketoacidosis.

Fasting plasma glucose > 7 mmol/L and 2 hours after breakfast > 11.1 mmol/L and RBS > 11.1 mmol/L are diagnostic. Interestingly it has been seen that only 10% of the diabetic children having the family history of diabetes and in identical twin 25-50% suffers from diabetes.



Autoimmune destruction of beta cells of pancreas has been demonstrated in Type 1 DM. Environmental factors and some viral infections (Mumps, Coxsackie virus, Cytomegalovirus) trigger the

onset of autoimmunity in genetically susceptible individuals. Acute complications are hypoglycemia, ketoacidosis and chronic complications are irreversible micro and macrovascular pathology, which includes

retinopathy, nephropathy, neuropathy. Management of diabetes in children is a challenging task as they do not always like to obey the given instruction. Diet, discipline and drug are the main stay

of management. Here insulin is the drug to be used to keep blood sugar in control.

People with type 1 diabetes have a three-times increased risk of developing epilepsy later in life, concludes research published in *Diabetologia*, the journal of the European Association for the Study of Diabetes (EASD).

Type 1 diabetes mellitus is one of the most common autoimmune disorders in children, with a 3% annual increase in the global incidence rate since the 1980s. In recent decades, the incidence of type 1 diabetes has increased in children and adolescents, particularly those aged younger than 5 years. Patients with diabetes are at increased risk of severe health problems and mortality.

Help of parents, relatives and teachers are very crucial in proper management of diabetes in children. Long, active, healthy, comfortable normal life can be enjoyed with proper management.

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HAVE A NICE DAY

While at the hospital



Ask some essential questions, particularly before undergoing a surgery or any procedure. This is a universal right - even when you go outside of your country. Feelings of uneasiness are not uncommon, but you would not get a chance after the operation.

Educate yourself, eliminate any anxiety and empower yourself as a patient or patient's attendant. The following are some questions that you should ask as you move through the process.

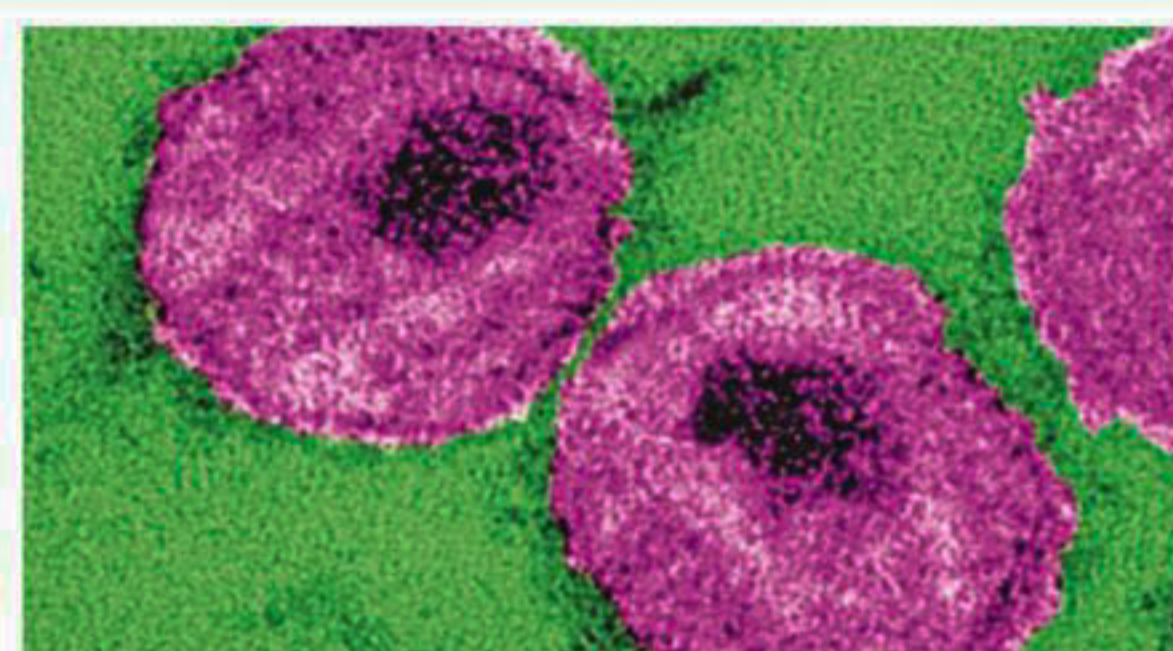
1. Do I have to go through this procedure / medical treatment? Is there any alternate (keeping in mind your age!)? Is it the only place for this type of surgery? What are the advantages at this place? After that, other than emergency, take your time to decide or go for second opinion. In emergency cases, if possible look at the experience and expertise of the surgeon, staff and hospital. Today in case of medical surgeries many procedures are done on an outpatient basis. This lowers the cost of these procedures since you are not paying for a hospital cabin. Be sure to ask your clinic why they recommend either day care or indoor services.
2. Wise and good doctors always welcome a second opinion. As modern science developed different school of thoughts, reasons to have surgery may vary from relieving or preventing pain / complaints. Ask your doctor to specifically explain why this procedure may improve your medical condition.
3. If a child is the patient, make sure the hospital has experience, facilities and paediatric supporting staff - especially phlebotomist with paediatric patients. The same goes for the elderly patients.
4. Do not hesitate to ask questions. It is important to express your feelings, questions and concerns prior having surgery. If you do not understand your doctor's responses, ask politely until you do.
5. Anaesthesia is one of the most concerning aspects of surgery. Being nervous about anaesthesia is normal, but a good anaesthetist is your best friend during and after the surgery. After surgery you may have pain, nausea or vomiting. Ask your doctor and anaesthetist what can be done to lessen these reactions. Learn what your expected recovery time will be like. Always ask about your pain management options. Be sure that your nurses, helping hands, friends or relatives understand what to expect in the weeks following the surgery. Knowing what to expect makes the recovery process different and certainly better. For some patients, the anaesthesia administration is more important than the actual surgery in terms of having an optimal outcome. Make sure to ask about your options for anaesthesia, the pros and cons and the potential complications.

6. Find out if you need any testing before and immediately after the procedure, or if you need to make any changes to your medication regimen. Ask your doctor about eating and drinking before the procedure. Mental preparation is also key factor. You need to prepare your family or helping hands, because chances are you will need their assistance when you come home. Be sure that it is not easy to go back to your regular life instantly. Complications are sometimes unavoidable after surgery, but you can help reduce some of the risks by following your doctor's instructions.

Life is complicated these days, so prepare yourself physically and mentally. Talk to your close ones, those who had this type of operation, friend or relative, your doctor and other concerned specialists.

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HEALTH bulletin



HIV, or human immunodeficiency virus, particles in purple, cause the disease AIDS. PHOTO: CDC

Cure for HIV reportedly 3 years away

A cure for HIV and AIDS reportedly could be just a few years away after scientists have been able to successfully snip away the virus from infected cells and prevent the disease from returning.

Scientists at the Lewis Katz School of Medicine at Temple University are confident that within the next three years they will be able to start human trials, the UK Daily Telegraph reported.

British experts believe that this treatment, which has only been tested in labs, would allow the body to effectively "cure itself from the inside," the newspaper reported. Human immune cells that were tested in the labs have showed no alteration to any other part of the genetic code.

"The fact that for the first time we have been able to completely eliminate segments of the viral genome in the laboratory demonstrates that we should be able to eliminate it in the human body," lead researcher Professor Kamel Khalili told The Telegraph. He reiterated that based on the recent findings, clinical trials could start within the next three years.

The new technique is called Crispr/Cas9. It involves targeting the genetic code of HIV which inserts into cells, according to The Telegraph. Scientists then take the Cas9 protein and edit it so it can recognise viral code.

The patient's blood is then taken and scientists would inject Cas9, which would then seek out the HIV virus in the cells. The protein then releases an enzyme and snips out the virus. Scientists are confident that replacing 20 percent of immune cells with genetically altered cells would be enough to cure the virus.

HEALTH TRIVIA

Is knuckle cracking harmful?

The straight answer is "No". Many people have misconception about it. The interphalangeal and the metacarpophalangeal joints in the fingers are the easiest joints to crack. The "popping" sound is thought to be gas bubbles imploding and collapsing in the synovial fluid that surrounds the joints. Knuckling is annoying, but it actually does not cause arthritis.

Someone might have fed you this myth because they could not stand the annoying sound. The popping noise you hear is not bone on bone - it is the bursting of small gas bubbles in the joint. And studies show there is no link between the habit and stiff, painful joints.



HEALTH NEWS

Discussion on cancer awareness and counselling



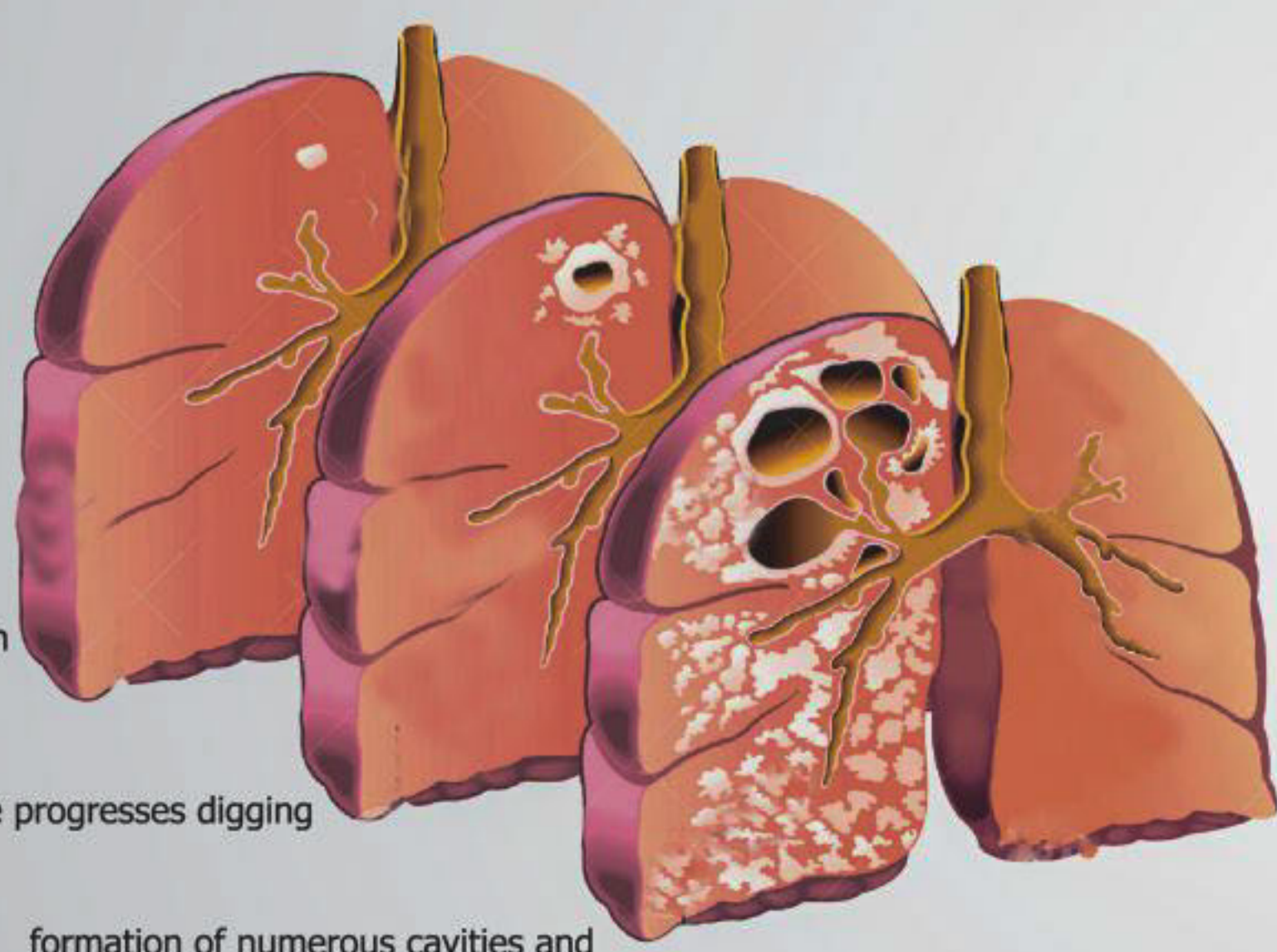
Centre for Cancer Prevention and Research (CCPR) organised a discussion on 'Cancer Awareness and Counseling' at Viqarunnisa Noon School and College Baily Road campus on March 30, 2016. Dr. Md. Habibullah Talukder Ruskin, Associate Professor and Head of Cancer Epidemiology of National Institute of Cancer Research and Hospital, Dr. Rehana Akhter, Deputy Director of BSMMU and Mosarrat Jahan Saurabh, Executive Director of CCPR spoke at the occasion. The speakers stressed on primary prevention and early detection of cancer.

'Pharma Fest' held at North South University



North South University (NSU) organised a 'Pharma Fest' with an objective to facilitate students of the Department of Pharmaceutical Sciences of NSU and those of other renowned universities, to meet leading pharmaceutical companies of the country and to exchange innovative ideas between those companies and healthcare providers recently. 'Pharma Fest' has been taking place since 2010. This year 'Pharma Fest' had the theme of 'Get Solution, Not Just Medication.'

Tuberculosis (TB) is a disease caused by a bacterium called *Mycobacterium Tuberculosis*. The bacteria usually attack the lungs, but TB bacteria can attack any part of the body such as the kidney, spine and brain. If not treated properly, TB disease can be **fatal**.



tuberculous infection initial in the right upper lobe

the initial plaque progresses digging a hole

formation of numerous cavities and bronchial erosions

Signs & Symptoms

- a bad cough that lasts 3 weeks or longer
- pain in the chest
- coughing up blood or sputum
- weakness or fatigue
- weight loss
- no appetite
- chills
- sweating at night
- fever

Vaccination

Bacille Calmette-Guerin (BCG) is a vaccine for tuberculosis (TB) disease. It is often given to infants and small children in many countries where TB is common. BCG does not always protect people from getting TB though.

Ref: Centers for Disease Control and Prevention (CDC)

