



Damage control

While diabetes management is a lifelong activity, it is important to know that it can affect different organs

BY RUTH DSOUZA PRABHU

The World Health Organisation (WHO) projects diabetes to be the 7th leading cause of death by 2030. Diabetes affects one in 12 people and half of those are not diagnosed. While we all know that sedentary lifestyle and bad food habits have caused a tremendous surge in the incidence of diabetes, what a lot of people forget is

that management is the most important part of diabetes care and one needs to ensure that blood sugar levels are under control. If blood sugar levels are not controlled over time, it could lead to serious problems to many other parts of the body. "Many of the complications of diabetes don't show up until many years after being diagnosed. They usually develop silently and

gradually over time, so even if people with diabetes aren't having any signs of complications, they may still eventually develop them," says diabetologist Dr Pradeep Gadge.

"Both men and women are affected by diabetes, and the impact on women is much more," says Dr Mahesh DM, consultant-endocrinology, Aster CMI Hospital, Bengaluru. "Women with

and women. These inequalities can discourage girls and women from seeking diagnosis and treatment, preventing them from achieving positive health outcomes," says Mahesh.

Experts across medical fields tell you how diabetes can affect your body systems and how you can take care that the damage is not beyond management.

Heart

What is commonly known is that in the long run, diabetes can be a silent killer as far as the heart goes. In fact, diabetes can begin to affect the heart right from the onset, says Dr Pratik Soni, director of cardiology, Wockhardt Hospital, Mumbai Central. He elaborates that the first finding is usually slow flow in the coronary arteries. "By the time diabetes is detected there are usually small blockages in the coronary artery. Lack of control of diabetes accelerates these blockages to a higher level causing chest pain or even heart attacks," says Soni. "What people need to realise is that heart attack in patients of diabetes is most of the time painless, which means the patient does not have the commonly heard of chest pain. The symptoms in these patients are usually shortness of breath, left shoulder pain or discomfort, unexplained weakness, problems of acidity or reflux etc.," he adds. The simple method of care is to control blood sugar as suggested by the doctor managing your diabetes. One must avoid oily food and never go on a binge eating spree. Where needed it is important to take prescribed anti-cholesterol medications regularly.

Urinary system

The urinary system is affected immediately with the onset of diabetes and has some long term effects. Explaining this Dr Lokesh Sinha, urologist, SRV Mamata Hospital, Mumbai says, "With onset, the person will have increased frequency of urination and is highly prone to urine infection. In the long term, it can cause diabetic nephropathy (affecting kidney functioning) and blad-

der dysfunction. If a person faces symptoms like increased urine frequency, urine infection or infection in any other part of the body he/she should go for a diabetes check-up," he says.

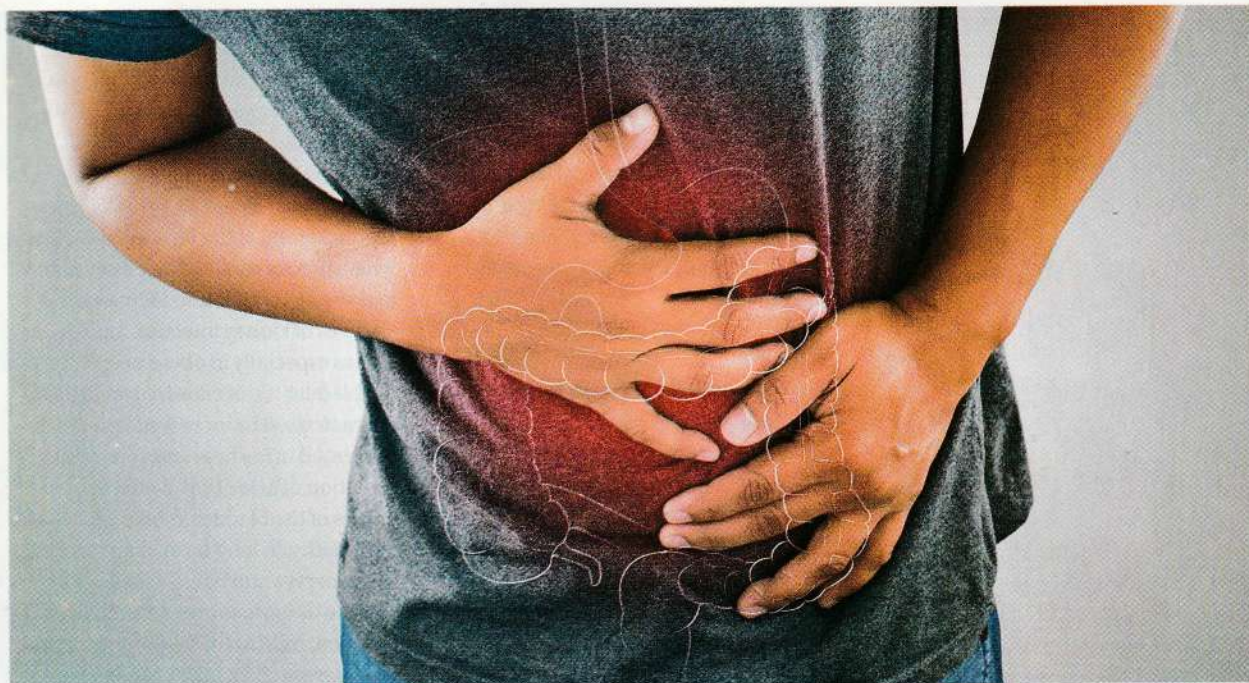
Sinha further adds that diabetes can cause glomerulosclerosis in the kidney i.e. thickening of the filtering membrane which in turn can lead to kidney failure in the long term. It also increases the chances of kidney infection and kidney stones especially in obese people. In the bladder it can cause a dysfunction characterised by increased frequency, decreased urine flow and sometimes retention of urine due to effect on nerves of the bladder known as diabetic cystopathy. In long term, diabetes can affect nerves and blood vessels of erectile tissue leading to erectile dysfunction, mild in the beginning but may grow severe if not taken care of.

"50 per cent of diabetics develop a kidney disease that lasts lifelong. About 30 per cent of patients with type 1 diabetes and 10 to 40 per cent of those with type 2 diabetes eventually will suffer from kidney failure," says Dr Vishwanath Billa, Zen Hospital, Mumbai. The factors accelerating the damage caused by diabetes are obesity, hypertension, high cholesterol levels and fluctuating sugar levels. Billa adds, "As a person with diabetes, apart from strict glucose control, you should have your blood, urine tests yearly and blood pressure checked monthly. This will lead to better control of your disease and early treatment of high blood pressure and kidney disease. Maintaining control of your diabetes can lower your risk of developing severe kidney disease. The early effects of diabetes on the kidney is appearance of protein in urine. If a diabetic shows protein in the urine in a test then the patient should gear up to look after themselves better."

Nervous system

Sudha Ananth (name changed), a 46-year-old librarian suddenly felt a weakness on her right side that lasted for close to three hours. She is a poorly controlled diabetic for the past five

diabetes have more difficulty conceiving and may have poor pregnancy outcomes, resulting in a significantly higher risk of maternal and child mortality and morbidity. Approximately one in seven births is affected by gestational diabetes (GDM), a severe and neglected threat to maternal and child health. Further, stigmatisation and discrimination faced are particularly pronounced for girls



years and has high blood pressure. She also developed numbness of the hands and feet for almost three months. At emergency evaluation, she was diagnosed with having a stroke involving the left side of the brain. Subsequently, she underwent brain angiogram and the clot was removed and stenting done. Despite having high cholesterol levels and average blood sugar levels over three months she went through the procedure well and was started on blood thinning medicines, cholesterol lowering drugs, insulin and other medicines to improve brain function following a stroke. Patient recovered quickly due to early presentation to the hospital following the stroke. But the doctors involved believe not everyone may be this lucky.

"Poorly controlled diabetes can affect various parts of the nervous system and a stroke is a serious illness that happens due to blockage of a blood vessel in the brain," says Dr Suryanarayana Sharma, consultant neurologist and head, division of stroke and neurosonology, BGS Gleneagles Global Hospitals, Bengaluru. "This is secondary to clot formation in a blood vessel in a poorly controlled diabetic. Patients can have

neuropathy affecting both motor and sensory nerves resulting in weakness, walking difficulties and increased risk of falls. Muscle weakness may also occur in patients with uncontrolled diabetes. Good control of diabetes with healthy diet and lifestyle modifications is the key to preventing neurological complications."

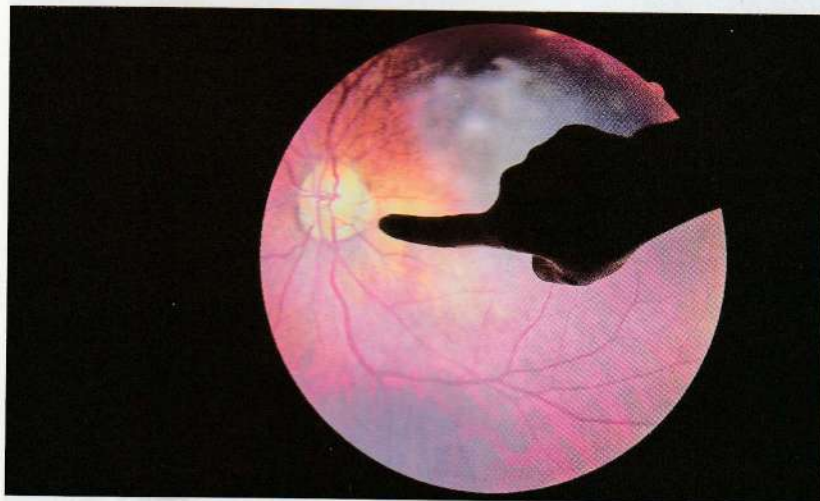
Digestive system

"It is less likely that digestive systems are affected by diabetes. However as the duration of the diabetes increases for more than eight to 10 years, it will have consequences on the digestive system," says Dr Nikhil Bondade, medical gastroenterologist, BR Life SSNMC Hospital, Bengaluru. He elaborates, "The most common problem seen among diabetic patients is diabetic gastroparesis. This is a condition in which emptying of food from the stomach is delayed. The retention of food content in the stomach can lead to bloating, upper abdominal pain, post prandial fullness and vomiting. Extreme cases may also see severe dehydration and electrolyte disturbances. Another commonly seen digestive system problem among

diabetic patients is constipation. High blood sugar levels, long term complications of diabetes can lead to diabetic neuropathy. Damage to the nerves controlling the digestive tract can cause constipation among the patients. Also, diabetic patients with a BMI of more than 25 have a chance of developing fatty liver. Patients who are obese have developed diabetes along with increased cholesterol and triglycerides may develop non-alcoholic fatty liver disease. It is mostly seen in patients with type 2 diabetes. Liver plays a major role in the digestion process. Such health condition may cause indigestion, jaundice, cirrhosis."

Teeth

Uncontrolled diabetes has many detrimental effects on teeth and gums. "Glucose is present in the saliva; when diabetes is not under control, the increased glucose levels in the saliva help the harmful bacteria to grow," explains Dr Balasubramanya K.V., head of department, senior consultant, periodontist and laser practitioner at Sakra World Hospital, Bengaluru. "These bacteria combine with the food to form a soft sticky film called plaque.



Plaque also forms from food that contain sugars/starches. High glucose level over a period of time leads to increased plaque deposits."

Balasubramanya explains the most common oral problems related to uncontrollable diabetes:

Gingivitis - inflamed or unhealthy gums. Gums may become red, swollen and may also bleed.

Periodontitis - mild or severe form of gingivitis. Gums get pulled away from the teeth. It involves persistent infections between the gums and teeth, bad breath and pus discharge between the teeth and gums.

Fungal diseases - uncontrolled growth of the naturally occurring fungus in the mouth leading to oral thrush/candidiasis.

Xerostomia - decreased rate of salivary flow, increasing the risk for tooth decay and gum diseases.

Burning mouth - altered taste sensation

Periodontitis - is identified as the sixth complication of diabetes. Clinical signs of periodontitis include swelling, redness, bleeding from the gums, spacing between teeth, loose teeth and exposure of root surfaces through the loss of bone around the teeth.

The disease can be present locally involving few teeth or be more generalised. In patients with uncontrolled diabetes, periodontitis is more generalised. Patients with type 2 diabetes

are at higher risk for developing periodontal diseases than those with type 1 diabetes.

Other less common effects of diabetes include mouth ulcers, delayed wound healing of the soft tissues of the mouth, lichen planus (inflammatory condition that affects mucous membranes inside your mouth), pain when chewing and change in the fit of dentures.

In terms of care, a regular and healthy cleaning regimen for the teeth is necessary as is informing your dentist about your diabetes.

Eyes

Dr Bhavik Panchal, consultant, Vitreo-Retina and Uveitis Service, LV Prasad Eye Institute, Vishakapatnam says that diabetic retinopathy (DR) and associated macular edema is the most frequent cause of vision loss among adults aged 24-74 years. Up to 21 per cent of patients with type 2 diabetes have retinopathy at the time of diagnosis of diabetes and most develop some degree of retinopathy over time.

He goes on to say that besides DR, diabetes is a common cause of cataracts. In people with diabetes, cataracts and retinopathy are the most significant cause of visual impairment and blindness and people with diabetes are 25 times more likely than the general population to lose vision.

There is also an increased inci-

Eye care for diabetics

Dr Bhavik Panchal, consultant, Vitreo-Retina and Uveitis Service, LV Prasad Eye Institute, Vishakapatnam, gives out tips to diabetics on caring for their eyes.

- The most important thing is to control your blood sugar levels.
- Regular diabetic retinopathy screening, at least once a year helps identifying the disease at an early stage.
- It is also important to manage the common systemic conditions associated with diabetes including hypertension, dyslipidaemia, anaemia and obstructive sleep apnoea.
- Renal impairment in particular should be taken care of. Diabetic nephropathy is strongly associated with sight-threatening diabetic retinopathy and proteinuria should be screened for.
- Diabetic retinopathy needs to be treated depending on the stage; macular edema would require intraocular anti-VEGF injections. Lubricating eye drops are to be used for dry eyes. Cataract surgery to be undertaken when the cataract is visually significant.
- Majority of ocular complications of diabetes can be managed successfully with minimal vision loss if diagnosed early and treated on time.

dence of contact-lens-associated bacterial keratitis and neurotrophic ulcers in diabetics. Dry eyes occur due to extensive hyperglycaemia bringing about corneal neuropathy. Increased prevalence of glaucoma in diabetics, especially, the neovascular type of glaucoma can be a complication of proliferative DR. Other common vision threatening complications include retinal vascular occlusions and ocular ischemic syndrome. Vitreous haemorrhage i.e. bleeding inside the eye can occur secondary to proliferative DR or retinal vein occlusion. □