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Double Helical

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Beat the Bulge

Preparing for Pregnancy

The treatment of childhood obesity poses a challenge and requires propagation of healthy lifestyle at the individual, community and national level. The goal should to provide children enough calories to maintain linear growth without further increase in weight

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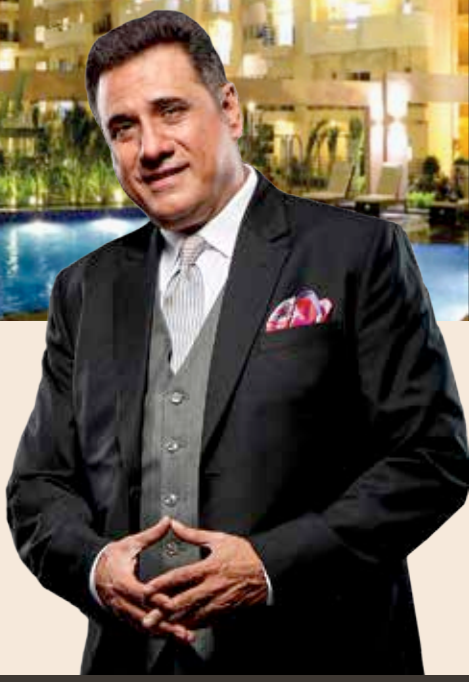

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Contents

Celebrating successful one year

Dear Readers,

Thank you for your participation in the completion of one year of Double Helical, which is now a credible magazine on health, fitness and holistic living.

Over the last one year, Double Helical has become the voice of all stakeholders of health sector – patients, doctors, paramedical staff, industries in the health, wellness and fitness domains and all other health services providers. The magazine has got a fully functional bureaus facilitating regular flow of news and information pertaining to all aspects of healthcare in India.

Double Helical enjoys an ever-increasing viewership in the country. It also has a global reach through its web edition www.doublehelical.com where apart from daily updates, the e-version of the magazine is available in an easy-to-download PDF format.

We are delighted to inform you that Double Helical is organizing National Health Awards 2016 on 19th March, 2016 at Hotel Ashoka, New Delhi, preceded by a day-long Conclave to discuss the burning issues facing the health sector. The awards will acknowledge the excellent contributions of the doctors, healthcare experts, hospital CMDs and CEOs to the further advancement of the medical field in the service of the country. A number of union ministers, CMs of states and eminent persons from the medical and other fields will grace this grand event.

In the February issue, we bring a number of relevant health stories and reports for your reading. The cover story Beat the Bulge highlights how childhood obesity is rising at an alarming rate in the country. Urgent measures are needed to tackle the growing menace. In our country, a fat child was and still is considered attractive and is often viewed as "healthy child". It's high time we raised awareness amongst parents regarding the harmful effects and the risk factors of obesity in children.

A recent study from southen India states that the prevalence of obesity in children, aged 6-15 years was 3% for boys and 5.3% for girls in urban schools in Kochi and Kerala. Also, prevalence of obesity (7.5%) and overweight (21.9%) were the highest among high income group and lowest (1.5% and 2.5%) among low income group. Another study from rural areas in Bangalore showed that the prevalence of obesity among 1,170 college students aged between 15 to 19 years was 7.2% and another 6.1% were overweight.

A study from northetn India reported prevalence of childhood obesity of 5.59% in higher socio-economic strata when compared to 0.42% in lower socio-economic strata. However, a recent study has shown that 3 to 5% of children from a government school in northern India were overweight. Slowly, but steadily, the epidemic of childhood obesity seems to be spreading to the middle and lower socio-economic groups as well.

A special story on vascular dementia describes a wide range of symptoms associated with the disease such as decline in memory or other thinking skills severe enough to reduce a person's ability to perform everyday activities. The after-effects can be minimized with early diagnosis and lifestyle changes

These symptoms occur when the brain is damaged because of problems with the supply of blood to the brain. Vascular dementia may develop after a stroke blocks an artery in your brain, but strokes don't always cause vascular dementia. Whether a stroke affects your thinking and reasoning depends on the stroke's severity and location. Vascular dementia also can result from other conditions that damage blood vessels and reduce circulation, depriving your brain of vital oxygen and nutrients.

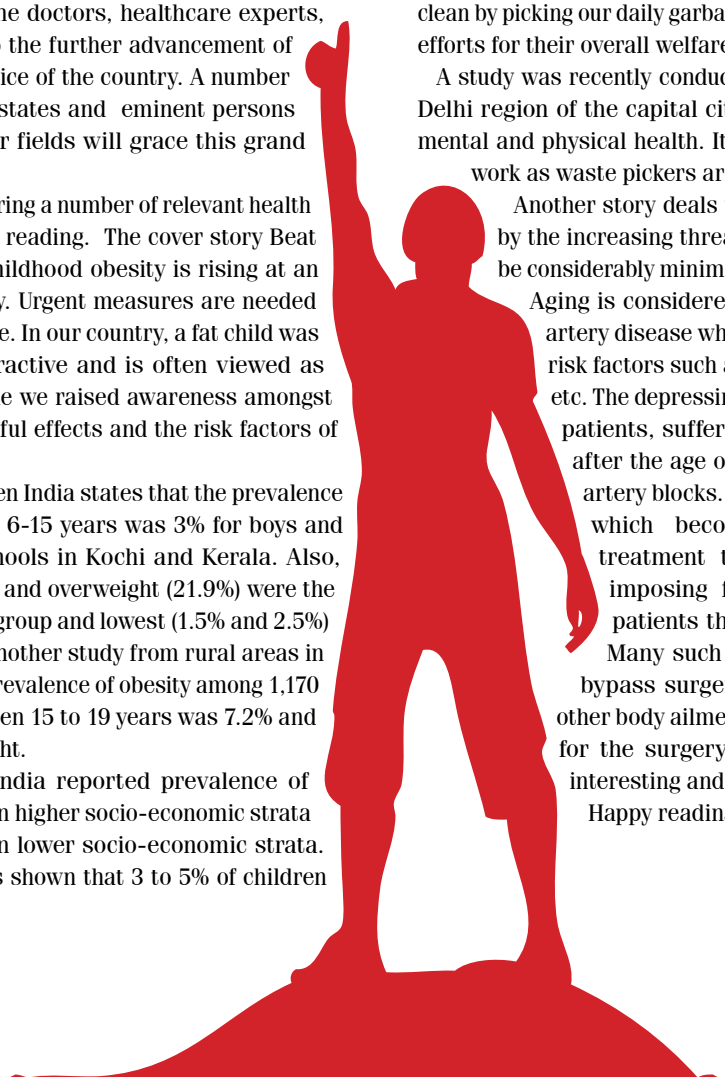
Another story written by a young scholar on ragpickers recounts the pain of millions of anonymous ragpickers who keep our city clean by picking our daily garbage. It's time now to put conscientious efforts for their overall welfare and improvement

A study was recently conducted in the three locations of South Delhi region of the capital city of New Delhi on waste pickers' mental and physical health. It has been found that children who work as waste pickers are more likely to fall mentally ill.

Another story deals witj old age, which is accompanied by the increasing threat of heart attack. But this can now be considerably minimized with a device called Rotablator. Aging is considered a major risk factor for coronary artery disease which cannot be modified unlike other risk factors such as hypertension, diabetes, smoking etc. The depressing part is that majority of the elderly patients, suffering from coronary artery disease after the age of 80, are having calcified coronary artery blocks. It is owing to the intractable angina which becomes unresponsive to medical treatment that the disease pattern starts imposing functional limitations in several patients thus affecting their quality of lives. Many such patients have already undergone bypass surgery; however those suffering from other body ailments such as bad lungs are even unfit for the surgery. There are a number of such interesting and informative stories.

Happy reading!

Amresh K Tiwary
Editor-in-Chief



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Different Approach

The management of coronary artery disease including diagnosis and treatment differs in men and women

BY DR K K AGGARWAL

Unlike men, women experience silent symptoms when heart attack strikes. Sometimes even chest pain is also missing in most women, or the degree of pain and discomfort that they experience is milder then the men when they suffer a heart attack.

According to a report of Journal of the American Heart Association,women are twice as likely as men to die if hospitalized for a type of heart attack known as ST-elevation heart attack. They are also less likely to receive appropriate and timely treatment for heart attack.Women with ST elevation heart attack have a 12 percent higher relative risk for in-hospital death compared to men.Compared to men, women are 14 percent less likely to receive early aspirin; 10 percent less likely to receive beta blockers; 25 percent less likely to receive reperfusion therapy (to restore blood flow); 22 percent less likely to receive reperfusion therapy within 30 minutes of hospital arrival; and 13 percent less likely to receive angioplasty within 90 minutes of hospital arrival. Women admitted with a STEMI are about twice as likely to die in the first 24 hours of hospitalization as men.

Therefore, it has been observed for some time now that the management of coronary artery disease differs in men and women. The differences exist right from the stage of interpretation of symptoms, non-invasive investigative procedures, cardiac catheterization and finally balloon therapy and bypass surgery, if required.

Although the incidence of coronary disease is very high these days, only a comparatively small number of women go for cardiac catheterization. The number is less than one fourth that of men. The number of women who undergo interventional treatment like balloon therapy and bypass surgery is

much smaller than that.

It was reported some time ago that women under 60 years of age with symptoms of angina have better prognosis than men under 60 years with history of angina, whereas women with angina between 60-69 years have bad prognosis. The mortality rate in this group for women was comparable to that of men with angina regardless of age.

And so, this information is useful while treating women with coronary disease. The prognosis in women is more age dependent than men. Obstructive coronary disease is usually found on angiography in about half the women under the age of 50 years with typical angina compared with over 90 percent of older women.

In contrast, obstructive coronary disease is found in virtually all men with history of typical angina regardless of age.

After careful checking of the history and physical examination, ECG stress testing is considered necessary because many symptomatic men and women will be found to have coronary artery disease. These tests are of relatively low cost and available at most of the Centres. ECG stress testing, however, seems to be less sensitive in women for coronary artery disease per se as compared to men and this is apparently due to the fact that the women with coronary artery disease have been reported to have fewer vessels involved than men.

ECG stress testing is quite sensitive for the disease in women with multi vessel disease. Stress echocardiography is much more sensitive. The sensitivity and specificity of stress echo and radionuclide myocardial perfusion imaging in coronary artery disease is similar for men and women. Yet the number of men referred for cardiac catheterization is much more as compared with women: the incidence of disease does not explain why lesser number go for coronary angiography. Lesser number of women also subsequently go for balloon angioplasty and bypass surgery.

Doubtamine (a drug) stress echocardiography (DSE) has been found to be very useful for detecting and locating coronary artery disease accurately in both men and women. The sensitivity and specificity of DSE in detecting CAD in patients with normal resting heart is around 89 percent and 85 percent. Sensitivity is 81 percent in patients with single vessel disease and 100 percent for detection of multi vessel coronary artery disease, heart rate at which the test becomes positive at a higher rate.

It has been seen previously that a large number of women with a typical chest pain have shown nonspecific ECG changes and significant changes on stress testing, but coronary angiography does not. It was surmised that these women mostly under 50 years of age probably had small vessel disease. It is now possible to assess more accurately the extent and location of coronary disease by DSE. In these women, DSE is a versatile and accurate cardiac stress testing modality with a wide range of clinical applications. It is useful for detecting CAD and for stratifying preparative risk and risk for heart attack and is an effective alternative to exercise testing in patients who are unable or unwilling to adequately perform an exercise test.

> It must be realized that the incidence of coronary artery disease is rising amongst women as never before. This calls for early detection of the disease by stress testing especially when risk factors are present.

DSE is safe, well tolerated and relatively easy to administer by the clinician. Dobutamine stimulation can produce ischemia (lack of blood supply) in presence of small vessel coronary disease and can be usefully employed to test the functional significance of a coronary lesion or small vessel disease in women below 50 years of age and so also the severity of coronary disease.

The technique allows the investigator to control the level of stress while continuously monitoring the echocardiographic images, thereby permitting interruption of the test at the earliest detection of significant ischaemia. This further contributes to the safety profile and patient

acceptance of the procedure. Low doze dobutamine stimulation can augment contractility in areas of stunned myocardium following clot dissolving therapy and has been used to identify patients who have the potential for functional recovery in the infract Zone.

It is interesting to note that the results of all the non-invasive tests are not used to the same extent in men and women. In one large study in the United States when the non-invasive tests were positive in 40.2 percent of men and only in 4.2 percent of women were referred for coronary angiography.

Differences in disease prevalence did not explain the disproportionate number of men referred for cardiac catheterization as the figures pertain only to those men and women who had been found positive for reversible ischaemia on non-invasive stress testing. The situation is similar in India, if not worse, women seem to be more sacrificing and tend to avoid coronary angiography and subsequent interventional procedures and when it comes to their men folk, they want them to undergo all necessary procedures and get well as early as possible.

It is possible that women are older in age by the time they need these procedures and probably have higher incidence of risk factors like diabetes, hypertension and obesity and are more often kept on antianginal medication rather than being subjected to balloon angioplasty or bypass surgery.

The question now arises as to whether coronary angioplasty and bypass surgery is equally effective in both the sexes. May be they are not as effective options in women as in men. Coronary bypass surgery has been found to be associated with greater operative morality and less symptomatic relief in women that in men.

In the Coronary Artery Surgery Study, operative morality was 1.9 percent for men and 4.5 percent for women. The observations are very significant. The differences in operative mortality have been explained to a great extent by older age group, advanced clinical disease present in women as compared to men by the time they come to specialized centers. Women have coronary arteries with smaller diameters and this may be related to greater operative mortality and less symptomatic relief in them.

Although the smaller sized coronary arteries have been considered a cause for greater mortality and lesser symptom relief for many years, it is now felt that the greater cause of these differences as assessed by some surgical series, in the outcome, are more likely to be due to a large extent to the fact that women are nearly always referred usually quite late for surgery as compared to men.

It has also been found from various data that women usually have a prolonged duration of anginaprior to heart attack or death and there is an unwillingness both amongst the women patients and their physicians to refer them for cardiac catheterization and interventional therapy as they are often stable on medical treatment when their exercise tests are positive for reversible ischemia. This may be alright if all the risk factors are being looked into and taken care of, but what happens in practice is that there is a delay in referral of women even after disabling symptoms are present for years, for interventional treatment as compared to men.

> Women die more than men in hospital from severe heart attack. Men and women have about the same adjusted in-hospital death rate for heart attack — but women are more likely to die if hospitalized for a more severe type of heart attack.

It appears reasonable to conclude that earlier referral of women would be definitely advantageous both for operative morality risk and symptom relief.

The first report from the National Heart Lung and Blood Institute registry analysis of 12,486 patients in 1991, indicated a lower angiographic success rate in women (60% v 66%) and a higher incidence of coronary dissection (rupture of the vessel wall) (5.8% v 4%) after balloon therapy.

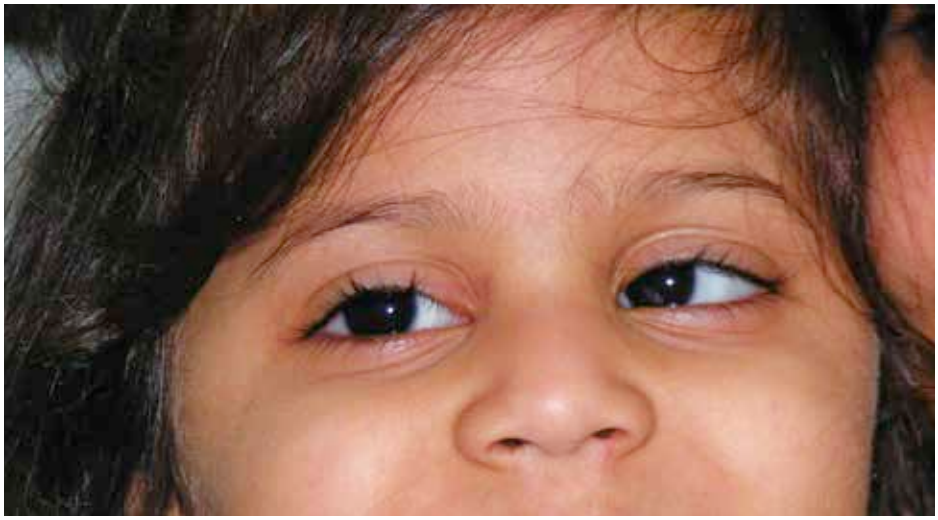
With early experience with CABG, small vessel size has been related to the morality during PTCA in women. Recently, more sophisticated technology early success rate are being reported to be as good as in men but the in hospital morality rates are still higher for women as compared to men and that is apparently related to the fact that women are generally sicker than men at the time of intervention. However, once angioplasty is successful in women, they experience more favourable long term symptomatic relief along with better angiographic outcome.

It must be realized that the incidence of coronary artery disease is rising amongst women as never before. This calls for early detection of the disease by stress testing especially when risk factors are present.

Early institution of medical therapy and change of lifestyle is mandatory. Symptomatic women with high risk factors and positive noninvasive test results, or disabling cardiac symptoms despite aggressive medical therapy should be referred for cardiac catheterization without further delay for maximal benefit from interventional therapy. Later the woman patients are sent for these procedures greater the risk involved.

(The author is Padma Shri, Dr B C Roy National Awardee and Honorary Secretary General, Indian Medical Association, New Delhi)

Misalignment of Eyes



Strabismus known as Squint has continued to baffle the medical world for ages. If your child turns his head to look at you every time, then we have a potential candidate for squint

BY DR. MAHIPAL S SACHDEV

Technically known as strabismus, Squint is a misalignment of the two eyes, because of which both the eyes are not able to see in the same direction, this misalignment may be constant or intermittent. Although it is most commonly seen in children, it may occur in adults too.

Causes of squint

Although the exact cause of squint is not known, it is mostly due to loss of coordination between the muscles that control the movement of the eyes. Six muscles control the movement of each eye. Each of these muscle acts along with its synergistic/antagonistic muscle of other eye to keep both the eyes aligned in a particular direction. Whenever there is loss of coordination between the muscles of two eyes, it leads to misalignment. This misalignment may be the same in all directions of gaze, or in some conditions the misalignment may be more in one direction of gaze, e.g., in squint due to nerve palsy.

> Although the exact cause of squint is not known, it is mostly due to loss of coordination between the muscles that control the movement of the eyes. Surgery cannot replace the need for glasses. If the child has significant refractive error, glasses are a must

In children a high refractive error, mostly hypermetropia (long sightedness) can cause an inward deviation of eye. If one of the eyes has poor vision either due to congenital cataract or any other disorder, it can also cause deviation of the eye. Thus, it becomes impartment in all cases of squint especially during childhood to rule out any other cause of visual loss.

Binocular single vision and its importance

Under normal circumstances, when both the eyes have good vision and they are aligned properly, they focus on the same object. Each of the eyes sends images of the same object, which reach the brain, where they are fused to form a single three-dimensional picture with depth perception. This is known as binocular single vision.

When the eyes are not aligned properly, each eye focuses on a different object and these signals are then sent to brain. Because two

different images reach the brain, it leads to confusion. When this situation occurs, a child ignores the image coming from deviated eye, thus seeing only one image. Because of this, child loses depth perception. The suppression of this image from the deviating eye leads to poor visual development in this eye, thus leading to a condition known as Amblyopia. This is also known as Lazy Eye.

An adult is unable to ignore this image, thus seeing two images of the same object leading to diplopia or double vision.

What are the symptoms of squint?

In a child, the parents may notice the deviation of eyes. It is important to remember that the eyes of a newborn are rarely aligned at birth. Most children attain alignment at the age of 3-4 weeks. If squinting persists even after the age of one month, an ophthalmologist should be consulted for complete evaluation.

Older children may complain of some photophobia or decreased vision, and frequent blinking. Adults may have diplopia (double vision) or apparent squint.

How to diagnose squint?

Squint is diagnosed by the ophthalmologist. In some children there may be a false appearance of squint due to broad nasal bridge. An ophthalmologist would first confirm whether it is a true or false squint. If a true squint is confirmed, certain special tests are carried out to try and find out the cause and to quantify the amount of squint.

Management of Squint:

The aims of treatment of squint are:

- Preserve or restore vision
- Straighten the eyes.
- Restore binocular vision

First of all, the eyes are checked to see if they have any refractive error that may be responsible for squint. If there is any significant refractive error present, it is treated first. In some cases (accommodative squint) a correction of refractive error is all that may be required to treat squint

> Although the exact cause of squint is not known, it is mostly due to loss of coordination between the muscles that control the movement of the eyes. Surgery cannot replace the need for glasses. If the child has significant refractive error, glasses are a must

Next the eyes are checked for presence of amblyopia. It is important to correct amblyopia before squint surgery as the eyes have a tendency to deviate again if amplyopia is persistent. The parents are explained about the importance of this treatment, as their cooperation is very crucial for the success of treatment.

The squint is treated by surgery of either one or both the eyes. The surgery involves weakening or strengthening of the relevant muscles to restore the balance and to get a good coordination. In some cases with double vision, prisms may be added in the glasses to ease the symptoms.

When should the squint be treated?

In a child, the treatment of squint and any associated amblyopia should be start as soon as possible. Generally speaking, the younger the age at which amblyopia treatment is initiated; the better is the chance of visual recovery. Delayed treatment may decrease the changes of good squint correction and visual recovery.

Are glasses necessary?

Yes. Surgery cannot replace the need for glasses. If the child has significant refractive error, glasses are a must. In some cases wearing glasses may correct squint. In other cases, wearing glasses help the eyes to see clearly. This clear vision is very important for the treatment of amblyopia, and also for maintaining the coordination of eyes, once they have been aligned by surgery.

Remember to get your child treated for squint at the earliest because if the child is > 5-6 yrs of age, then amblyopia / lazy eye can't be treated. The child would then remain with poor vision in eye with squint throughout life.

(The writer is Chairman and Medical Director, Centre for Sight, New Delhi)

Sneak Thief of Vision

The role of Glaucoma as a cause of blindness has been known since the 19th century. But it can be controlled if it is diagnosed and treated early

BY DR GEETIKA KHURANA

Dr Geetika Khurana

Glaucoma is defined as chronic and progressive optic neuropathy, associated with visual field loss, which may or may not be associated with increase in intra ocular pressure (IOP).

A major risk factor for glaucoma is increased pressure in the eye. Normal IOP is in the range of 10 to 21 mmHg. The increased pressure can damage the optic nerve, which transmits images to the brain. If damage to the optic nerve from high eye pressure continues, glaucoma can cause permanent loss of vision. Without treatment, glaucoma can cause total blindness permanently, within a few years. However, there is no specific level of elevated eye pressure that definitely leads to glaucoma. Conversely, there is no lower level of IOP that will absolutely eliminate a person's risk of developing glaucoma. Because most people with glaucoma have no early symptoms or pain from this increased pressure, it is important to consult eye doctor regularly so that glaucoma can be diagnosed and treated before permanent visual loss occurs.

Pathophysiology

Glaucoma is usually caused when pressure in one's eye increases. This can happen when intraocular fluid isn't circulating normally in the anterior part of the eye. Normally, this fluid called aqueous humour flows out of the eye through a mesh-like channel called trabecular meshwork. If this channel becomes blocked, fluid builds up, causing glaucoma. The direct cause of this blockage in primary glaucoma is unknown, but it is found to have a genetic predisposition. Less common causes of glaucoma include a blunt or chemical injury to the eye, blockage of retinal blood vessels in the eye, inflammatory conditions of the eye, and occasionally eye surgery to correct another condition. Glaucoma usually occurs in both eyes, but it may involve each eye to a different extent.

Types of Glaucoma

There are two main types of glaucoma:

1. Open-angle glaucoma

This is the most common type of glaucoma. The structures of the eye appear normal, but fluid in the eye does not flow properly through the trabecular meshwork.

2. Angle-closure glaucoma

It can be acute or chronic angle-closure or narrow-angle glaucoma. This type of glaucoma is less common in the West than in Asia. Poor drainage is caused because the angle between the iris and the cornea is too narrow and is physically blocked by the iris. This condition leads to a sudden buildup of pressure in the eye.

Although "normal" eye pressure is considered a measurement less than 21 mmHg, this can be misleading. Some people have a type of glaucoma called normal-tension, or low-tension glaucoma. Their eye pressure is consistently below 21 mmHg, but optic nerve damage and loss of vision still occur. People with normal-tension glaucoma are usually treated in the same way as people who have open-angle glaucoma.

Congenital glaucoma is a rare type of glaucoma that develops in infants and young children and can be inherited. While less common than the other types of glaucoma, this condition can be devastating, often resulting in blindness if not diagnosed and treated early.

> Detecting glaucoma early is one reason one should have a complete eye test with an eye specialist every one to two years, especially after age of 40 years.

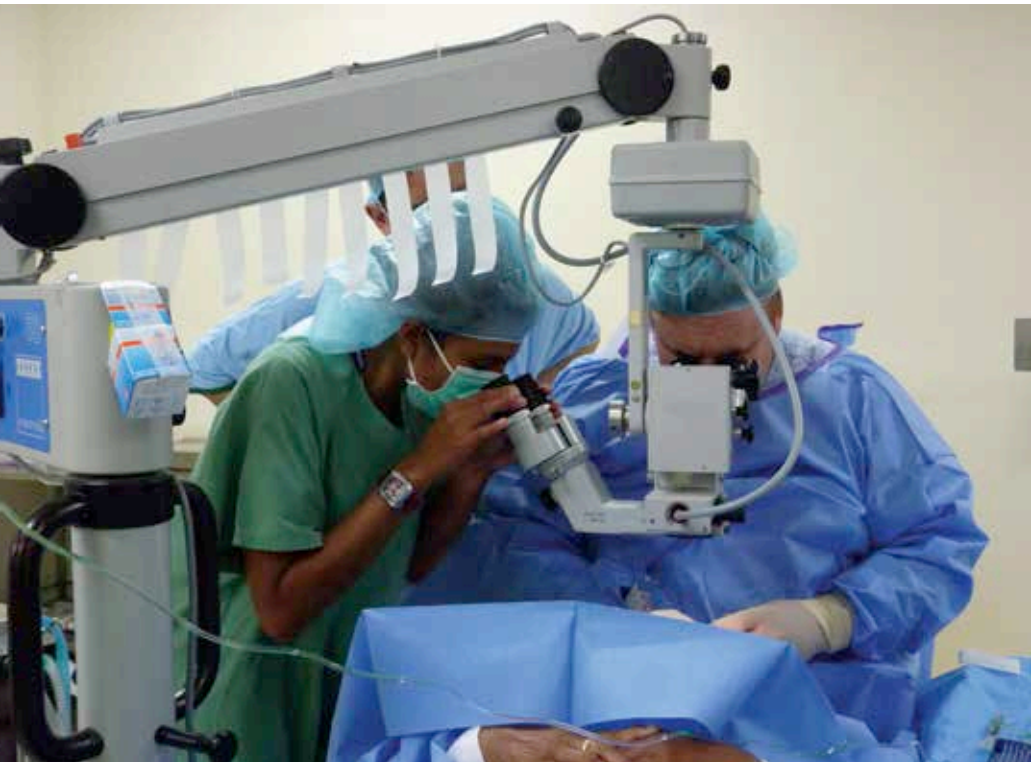
Secondary glaucoma results from another eye condition or disease. For example, someone who has had an eye injury, someone who is on long-term steroid therapy or someone who has a tumour may develop secondary glaucoma. The most common forms of secondary glaucoma are: pseudoexfoliative glaucoma, pigmentary glaucoma, and neovascular glaucoma.

Some people have normal eye pressure but their optic nerve or visual field looks suspicious for glaucoma. These patients are known as glaucoma suspects. They must be watched carefully because some may eventually develop definite glaucoma and need treatment.

Other people have an eye pressure that is higher than normal, but they do not have other signs of glaucoma, such as optic nerve damage or blank spots that show up in their peripheral (side) vision when tested. This condition is called ocular hypertension. Individuals with ocular hypertension are at higher risk for developing glaucoma compared to people with lower, or average, eye pressure. Just like people with glaucoma, people with ocular hypertension need to be closely monitored by an ophthalmologist to ensure they receive appropriate treatment.

Risk Factors

- Age above 40 years
- African-American, Irish, Russian, Japanese, Hispanic, Inuit, or Scandinavian descent
- Family history of glaucoma



- Diabetes
- Long term use of topical or oral steroid
- Trauma

Symptoms

There are usually few or no symptoms of glaucoma. The first sign of glaucoma is often the loss of peripheral or side vision, which can go unnoticed until late into the disease. This is why glaucoma is often called the "sneak thief of vision".

Detecting glaucoma early is one reason one should have a complete eye test with an eye specialist every one to two years, especially after age of 40 years. Occasionally, intraocular pressure can rise to severe levels which can cause sudden eye pain, headache, blurred vision, or the appearance of halos around lights.

Diagnosis

To diagnose glaucoma, an ophthalmologist will test the vision and examine your eyes through dilated pupils. The eye exam typically focuses on the optic nerve, which has a particular appearance in glaucoma. In fact, photographs of the optic nerve can also be helpful to follow over time as the optic nerve appearance changes with the progression of the disease. The doctor will also perform a procedure called tonometry to check for eye pressure, and a visual field test, if necessary, to determine if there is loss of peripheral vision. Glaucoma tests are painless and take very little time.

Treatment

Various treatment modalities for glaucoma include:

- Topical therapy: These either reduce the formation of aqueous humor or increase its outflow. Side effects of anti-glaucoma drops may include allergy, redness of the eyes, brief stinging, blurred vision, and irritated eyes. Some glaucoma drugs (beta blockers) may affect the heart and lungs.
- Laser procedures for glaucoma. Laser surgery for glaucoma slightly increases the outflow of the fluid from the eye in open-angle glaucoma or eliminates fluid blockage in angle-closure glaucoma. Types of laser surgery for glaucoma include trabeculoplasty, in which a laser is used to pull open the trabecular meshwork drainage area; iridotomy, in which a tiny hole is made in the iris, allowing the fluid to flow more freely; and cyclophotocoagulation, in which a laser beam treats areas of the middle layer of the eye, reducing the production of fluid.
- Microsurgery for glaucoma. In an operation called a trabeculectomy, a new channel is created to drain the fluid, thereby reducing intraocular pressure that causes glaucoma. Implantation of drainage devices is also required in certain cases. Complications of microsurgery for glaucoma include failure, temporary or permanent loss of vision, bleeding and infection.

> Some people have normal eye pressure but their optic nerve or visual field looks suspicious for glaucoma. These patients are known as glaucoma suspects.

Glaucoma cannot be prevented but it can be controlled if it is diagnosed and treated early. Loss of vision caused by glaucoma is irreversible. However, successfully lowering eye pressure can help prevent further visual loss from glaucoma. Most people with glaucoma do not go blind if they follow their treatment plan and have regular eye tests by eye specialists.

(The author is Senior Resident, Army College of Medical Sciences & Base Hospital, New Delhi)

Threat to Vision

Eyes are the windows to the world. Guard yourself against damage to retina

DR. RAJEEV JAIN

Eyes are one of the most important vital organs of our body. They enable us to see and enjoy the beauty that surrounds us in the world. Inside our eyes, lies a thin layer of tissues called retina on which light rays are focused to form the image. Retina converts light into signals and then send them to the brain so that we can see the image through our eyes.

Retina plays a very important role in our vision. Be it major or minor, damage to the retina can seriously affect us our eyesight and calls for immediate medical attention. Failure to do so, might lead to loss of vision or permanent blindness.

Retinal detachment is a condition in which the retina gets detached or peels away from the back wall of the eye. This leads to reduction of blood supply along with source of nutrition to the retina, resulting in degeneration. Retina, if remains detached, can cause permanent loss of vision.

If someone observes flashes of light in their vision accompanied by floaters (thread like moving strands in the vision) and darkened side vision, don't delay visiting a retina specialist as these are the primary symptoms of retinal detachment.

If someone observes flashes of light in their vision accompanied by floaters (thread like moving strands in the vision) and darkened side vision, don't delay visiting a retina specialist as these are the primary symptoms of retinal detachment.

There are three main types retinal detachment. First and the most common type is retinal break or tear. In this, liquid present in the centre of the eye called vitreous, passes through the retinal tear making the retina lift off from its position. In medical terms, it is called Rhegmatogenous retinal detachment.

The second most common type is exudative retinal detachment. This happens due to leakage of fluid (exudates) from the retina. Tumours and inflammatory disorders of the eye cause exudative retinal detachment.

Traction retinal detachment is the third kind of retinal detachment. Proliferative Diabetic Retinopathy (PDR) causes traction retinal detachment. In this, the retina gets pulled from the vascular tissue in the vitreous cavity.

People who are short-sighted are at

the risk of developing retinal detachment. Anyone who had an eye injury in the past, or had undergone a complicated cataract surgery is more prone to retinal detachment. Besides, those with a family history of retinal detachment are at increased risk of developing this disorder.

A surgery for reattaching the retina is the most successful way to treat retinal detachment. Depending upon the characteristic and age of the patient, appropriate technique is adopted for the treatment. There are basically 3 ways to treat retinal detachment.

The oldest and most common technique to treat retinal detachment is scleral buckle. It is used for patients suffering from rhegmatogenous retinal detachments in which there are no major complications. In this the buckle (a silicone sponge or solid silicone) is sewn onto the outer wall of the eyeball to close the retinal break or tear. A person can get back to home on the same day of the surgery, and resume their daily chores in a few days' time.

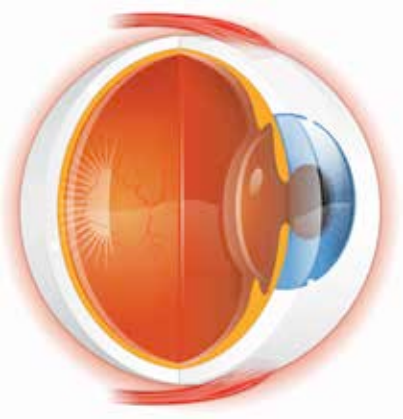
Vitrectomy is another technique used generally for those patients suffering from traction retinal detachments caused by diabetes. But this treatment can also be used for patients with rhegmatogenous detachments, especially if they are associated with vitreous traction or vitreous hemorrhage.

For those having a single tear rhegmatogenous detachment,a Pneumatic retinopexy can be a good option. In this treatment, a gas bubble is injected in the vitreous cavity (middle part of the eye) and is positioned in a way that it covers the retinal break.

Depending upon the cause behind retinal detachment,a retina specialist can advise you on the type of procedure to be used for the treatment.

> A surgery for reattaching the retina is the most successful way to treat retinal detachment. Depending upon the characteristic and age of the patient, appropriate technique is adopted for the treatment. There are basically 3 ways to treat retinal detachment.

Post the surgery, a patient might feel tired for the first 2-3 weeks. Also, it is advised that person should not drive or fly while the gas bubble is still there in the eye. Many a times, a person may feel uncomfortable or scratchy in the eye during the first few days. Strenuous activities should be avoided until your eye is completely healed. Post healing, one can get back to their normal course of work and lead a normal life.



There is a possibility that if you have retinal detachment in one eye then you might develop it in the other eye as well. After careful examination, if any weak area vulnerable to develop break is discovered a laser treatment can be performed by the doctor to strengthen the retina.

A retinal detachment in most cases can be prevented with regular eye examination. If you notice any changes in your vision, don't ignore and get yourself checked. If you have diabetes, it becomes even more important to have eye examination once a year. Also those having near vision problem should ideally get their eyes checked at regular basis.

If you suffer from diabetes or hypertension, it is advised to keep your levels under control so that no added pressure falls on the retinal blood vessels. While performing outdoor activities like swimming, scuba diving, snowboarding etc., make sure you wear protective glasses. Eye protection is also required for those whose work involves usage of chemicals or artificial UV lights.

(The author is Eye Surgeon and Director, Save Sight Centre, Delhi)

Beat the Bulge

The treatment of childhood obesity poses a challenge and requires propagation of healthy lifestyle at the individual, community and national level. The goal should to provide children enough calories to maintain linear growth without further increase in weight

BY AMRESH KUMAR TIWARY

Childhood obesity is an issue of serious medical and social concern. In developing countries including India, it is a phenomenon seen in higher socio-economic strata due to the adoption of western lifestyle. Consumption of high calorie food, lack of physical activity and increased screen time are major risk factors for childhood obesity. But thereare other genetic, prenatal factors and socio-cultural too.

Obese children and adolescents are at increased risk of medical and psychological complications. Insulin resistance is commonly present especially in those with central obesity. It manifests as dyslipidemia, type 2 diabetes mellitus, impaired glucose tolerance, hypertension, polycystic ovarian syndrome and metabolic syndrome.

In India, secular trends clearly

demonstrate the steep rise in prevalence of childhood obesity especially in metropolitan cities. A recent multi-centric study reported the prevalence of overweight and obesity in urban children in the age group of 8–18 years to be 18.5 % and 5.3 %, respectively.

Says **Arvind Garg**, Senior Child Specialist, Apollo Hospital, Noida, "Obese children and adolescents are often assigned to general physicians for management. The latter play a key role in prevention and treatment of obesity as it involves lifestyle modification of the entire family. Obesity and its medical consequences including cardiovascular disease and type 2 diabetes are emerging as a serious public health concern in children worldwide."

Dr Anup Mohta, Director, Chacha Nehru Bal Chikitsalaya, East Delhi, agrees, "We aim at discussing the diagnostic approach andmanagement of childhood obesity from a general physician'sperspective.The parents of obese children and adolescents often seek advice from general physicians for treatment of this condition. Indeed, the general practitioner plays a key role in management as well as prevention of obesity that involves lifestyle changes for the entire family."

Know your child's obesity

Body Mass Index [BMI 0 weight in kg/ height in (m) 2] is themost widely used parameter to assess obesity. Adults areconsidered overweight if their BMI is 25 to 29.9 kg/m2 andobese if it is equal to or greater than 30 kg/m2. In view of the increased tendencyfor cardiovascular risk at lower BMIs, it has been proposedto lower these cutoffs to 23 kg/m2 and 25 kg/m2,respectively for Asian Indians. The BMI changes with age in children and therefore absolutecutoffs are not appropriate for them. Instead, childhoodoverweight and obesity are defined as BMI equal to or greater than85th and95th percentile respectively as per age and gender-specificBMI references. Various BMI references are being used to assess obesity in children.

The pattern of distribution of body fat is a better determinant of morbidity than BMI alone. Central (visceral or abdominal) fat deposition is associated with a higher risk of cardiovascular disease and diabetes mellitus, in comparison to gluteal or subcutaneous fat. Waist circumference is generally used as a measurement of central obesity. In Asian Indians, if a waist circumference is equal to or greater than 80 and 88 cm in adult women and men, respectively, it should prompt screening for obesity-related complications. There are no age and gender-specific waist circumference percentiles available for Indian children, apart from a regional study from South India.

> "We aim at discussing the diagnostic approach and management of childhood obesity from a general physician's perspective. The parents of obese children and adolescents often seek advice from general physicians for treatment of this condition. Indeed, the general practitioner plays a key role in management as well as prevention of obesity that involves lifestyle changes for the entire family."
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> **Dr Anup Mohta,** Director, Chacha Nehru Bal Chiktsalaya, East Delhi

Cause of Obesity

Obesity is a result of imbalance between caloric intake and expenditure. The vast majority of children have 'simple

"Simple obesity, the commonest form of obesity, is multifactorial in origin. Contributing factors may be genetic, prenatal, socio-cultural and environmental. Indeed, the epidemic of obesity and type 2 DM in the Indian subcontinent is well explained by the changing lifestyles with an underlying genetic predilection for gaining weight. High socio-economic status, lack of physical activity and junk food consumption are strongly associated with obesity."

Dr Arvind Garg,
Sr Child Specialist, Appolo Hospital, Noida

obesity' as a consequence of caloric excess causing gain in weight as well as height. Occasionally, a child may have a pathological (genetic or endocrine) cause of obesity which inhibits linear growth resulting in short stature. Important endocrine causes of obesity include hypothyroidism, growth hormone (GH) deficiency, Albright's hereditary osteo-dystrophy (pseudo-hypo parathyroidism) and Cushing syndrome. Hypothalamic obesity is a rare cause of obesity and results from hypothalamic damage from tumors, CNS surgery or irradiation, trauma, anoxic damageor meningitis.

Says **Dr Arvind Garg,** Senior Child Specialist, "Simple obesity, the commonest form of obesity, is multifactorial in origin. Contributing factors may be genetic,prenatal, socio-cultural and environmental. Indeed, the epidemic of obesity and type 2 DM in the Indian subcontinent is well explained by the changing lifestyles with an underlying genetic predilection for gaining weight.High socio-economic status, lack of physical activity and junk food consumption are strongly associated with obesity."

Dr S K Mittal, Senior Child Specialist, observes, "The sedentary activities such as television viewing, internet and video games, collectively referred to as screen time, have increased in recent years and consume much of the free time available to children. Academic pressures and paucity of safe open spaces/ playgrounds in schools and communities have further contributed to a steep decline in outdoorphysical activities of children."

The consumption of fast food has risen due to its easy availability, palatability, aggressive advertisement by multinational companies and a lack of awareness of the harmful effects. Of these, television viewing is seen as the most important and modifiable risk factor for obesity. Not only does television displace the time that could be used for physical activity, but it also increases calorie intake. Children tend to passively eat while watching television and consume more junk food and colas by virtue of being exposed to advertisements of these products.

Dr H P Singh, Senior Child Specialist, Mother & Child Clinic, Vaishali, throws a new light, "Offsprings of obese parents tend to be obese and parental obesity is a strong risk factor for adult obesity. Also, intrauterine nutritional deprivation, placental insufficiency and growth retardation cause metabolic alterations in the fetus and predispose to obesity and metabolic syndrome in adulthood."

Dr Sachin Bhargav, Senior Child Specialist, elaborates, "Over feeding of low-birth weight babies and rapid

> "The sedentary activities such as television viewing, internet and video games, collectively referred to as screen time, have increased in recent years and consume much of the free time available to children. Academic pressures and paucity of safe open spaces/ playgrounds in schools and communities have further contributed to a steep decline in outdoor physical activities of children."
>
> **Dr S K Mittal,** Senior Child Specialist

catch-up growth in infancy are associated with increased risk of obesity. On the other hand, prolonged breast feeding is beneficial and children who are breast-fed for a longer duration have lesser risk of obesity. This is possibly related to the physiologic properties of human milk or feeding patterns associated with breast-feeding. Certain socio-cultural beliefs in India such as viewing a fat child as healthy, force-feeding children and encouraging them to eat large quantities of butter/ghee aggravate the problem of obesity."

An obese child has an increased risk of being obese as an adult and this risk is nearly 90 % in case of obese adolescents. Apart from immediate medical complications in childhood, obesity also results in long-term health consequences later in life. Obesity, especially central obesity, impairs the metabolic action of insulin on glycemic control, lipids and blood pressure, causing insulin resistance. This is characterized by the 'metabolic syndrome' which is a cluster of metabolic derangements including abdominal obesity, dyslipidemia, glucose intolerance and hypertension that predict high risk of cardio vascular disease and diabetes.

According to experts, high socio-economic status, lack of physical activity and junk food consumption are strongly associated with obesity. Sedentary activities such as television viewing, internetand video games, collectively referred to as screen time, have increased in recent years and consume much of the freetime available to children. Academic pressures and paucity of safe open spaces/ playgrounds in schools and communities have further contributed to a steep decline in outdoorphysical activities of children.

As Dr Arvind Garg puts it, "The consumption of fast food has risen due to its easy availability, palatability, aggressive advertisement by multinational companies and alack of awareness of the harmful effects. Of these, television viewing is seen as the most important and modifiable risk factor for obesity. Not only does television displace the time that could be used for physical activity,but it also increases calorie intake. Children tend topassively eat while watching television and consume morejunk food and colas by virtue of being exposed to advertisements of these products."

All children presenting for evaluation of overweight should have their height and weight measured and the BMI plotted on the growth chart. Children with simple obesity tend to be tall for age; the height for age percentile frequently, exceeding mid-parental height percentile. Short stature in an obese child points to a pathological cause of obesity. Patients with morbid

Kids at Risk

Overweight in children is a serious public health problem that continues into adulthood with a higher risk of morbidity and mortality

BY ABHIGYAN

While underweight in childhood is still a major public health problem in the Indian subcontinent, the increasing prevalence of overweight poses an additional threat to public health.

Obesity can be seen as the first wave of a defined cluster of non-communicable diseases called "New World Syndrome", creating an enormous socio-economic and public health burden in poorer countries. The World Health Organization (WHO) has described obesity as one of today's most neglected public health problems, affecting every region of the globe.

The problem of overweight and obesity in childhood and adolescence is a global phenomenon and has been increasing in the developing world. In childhood, the condition of overweight is a serious public health problem that tracks into adulthood with a higher risk of morbidity and mortality. The morbidities associated with overweight include an increased risk of heart disease as well as other chronic diseases in adult life, such as type 2 diabetes mellitus, atherosclerosis, hypertension, dyslipidemia, and metabolic syndrome, which are all becoming common among children and adolescents.

Childhood obesity in developed countries has reached alarming proportions and developing countries are not far behind. It has been estimated that worldwide over 22 million children under the age of 5 are obese, and one in 10 children is overweight. Studies reports the prevalence of childhood obesity to fluctuate in different countries, with the prevalence of overweight in Africa and Asia averaging well below 10 per cent and in the Americas and Europe above 20 per cent. The proportion of school-going children affected almost doubled by 2010 compared with the surveys from the late 1990s up to 2003.

In the Indian subcontinent, especially India, Bangladesh, and Pakistan, malnutrition leading to underweight has been the major public health concern for decades, with little or no attention being paid to overweight until recently. The recent studies report the prevalence of overweight to be as high as 35–40 per cent, which is close to the national estimates of overweight in many industrialised countries, including the United States and Australia. While underweight in childhood is still a major public health problem in the Indian

subcontinent, the increasing prevalence of overweight poses an additional threat to public health.

There is significant heterogeneity in this time trend of obesity in India. Socio-economic trends in childhood obesity in India are also emerging. Studies from north, south, east, west, and central parts of India have reported varying prevalence rates of overweight and obesity in children and adolescents, suggesting strong geographical, economic, and societal influences on the progression of this massive epidemic.

Socio-economic trends in childhood obesity in India are emerging. A study from northern India reported a childhood obesity prevalence of 5.59 per cent in the higher socio-economic strata when compared to 0.42 per cent in the lower socio-economic strata.

Determinants of Adolescent Obesity

A variety of mechanisms participate in weight regulation and the development of obesity in children, including genetics, developmental influences ("metabolic programming", or epigenetics), and environmental factors. The relative importance of each of these mechanisms is the subject of ongoing research and probably varies considerably between individuals and populations. The rapidly changing dietary habits along with the adoption of sedentary lifestyle increases enormously the obesity-related non-communicable diseases such as insulin resistance, type 2 diabetes mellitus, and metabolic syndrome. In developed countries, it is seen that greater social inequality is associated with increase chance of obesity contrary to developing countries. And once obesity is established, the role of primary prevention is of paramount importance with strategies of behavioural changes, diet control, and physical activity being the core interventions.

Key determinants of childhood obesity include lack of physical activity, excess caloric intake, lifestyle related factors like daily allowance (pocket money) to purchase lunch, easy availability of domestic help to take care of household chores, commuting to school by bus or car instead of walking or bicycling, aggressive advertising by transnational fast-food and cola companies. Socio-cultural factors and urbanisation like overprotection and forced feeding by parents, false traditional beliefs about health and nutrition, low knowledge about nutrition in parents and caregivers also contribute to obesity. Again limited availability of open spaces and parks due to population expansion and illegal settlements with abundance of fast-food outlets and eating points increase the chance of the child becoming obese.

What India can learn from developed nations?

In India, we are still struggling with the burden of malnutrition but the issue of over-nutrition cannot be ignored. Effectively addressing this complex problem calls for a sustained, multi-sectoral response involving the public, private, and health professional and non-governmental sectors. Timely action must be initiated to combat the rising epidemic of childhood obesity. There is considerable knowledge, research and scientific information about the risk factors on the causes and consequences of childhood obesity. India should also formulate a national policy and partner with the private sector to end the childhood obesity problem. Effective policies and tools to guide healthy eating and active living are within our grasp. Some of the specific recommendations are as follows:

Surveillance such as periodic monitoring of nutritional and obesity status of children including adults. Health education for all children and their families, routine health care should include obesity-focused education, Community mobilisation like organisation and participation in health walks and healthy food festivals.

In early infancy and prenatal period like balanced nutrition to pregnant mothers, encourage exclusive breastfeeding, avoidance of catch-up obesity in children.

School- based interventions like high importance on physical activity, making healthier choice available and banning un-healthy food in cafeteria, (sweetened beverages and energy-dense junk food). Teachers can play a vital role in this initiative, training of teachers regarding nutrition education.

Home- based interventions like key goals to address the common diet-related problems encountered in children, set firm limits on television and other media early in the child's life. Also, kids should establish habits of frequent physical activity, TV/computer time to be restricted to maximum 2 h/day, restriction on eating out at weekends and restricting availability of junk foods at home.

Policy formulation like creation of national task force for obesity, decrease in taxes and prices of fruits and vegetables, proper food labelling practices and quality monitoring, more playgrounds, parks and walking and bicycle tracks.

To conclude, childhood obesity is a growing menace in India and the world over. We need to bring in lifestyle modifications early in this life phase so as to prevent serious implications later in life.

"Offsprings of obese parents tend to be obese and parental obesity is a strong risk factor for adult obesity. Also, intrauterine nutritional deprivation, placental insufficiency and growth retardation cause metabolic alterations in the fetus and predispose to obesity and metabolic syndrome in adulthood."

Dr H P Singh, Senior Child Specialist, Mother & Child Clinic, Vaishali

obesity (BMI equal or greater than 99th percentile, correspondingto a BMI of 30–32 kg/m2 for 10–12 y age and equal or greater than 34 kg/m2 for 14–16 y), are especially at risk of complications and should receive prompt attention. The American Academy of Pediatrics (AAP) has given cut-offs for the 99th percentile BMI at various ages.

The aim of clinical and laboratory evaluation is to differentiate simple from pathological obesity and assess for complications related to obesity. Previous growth records should be evaluated for determining the age of onset of obesity and linear growth. A review of symptoms will help point to co-morbid conditions. "Assessment of calorie intake and exercise should be undertaken. Questions regarding food seeking behavior, appetite, eating habits, cumulative screen time including that spent on television viewing, computers and other electronic gadgets should be sought in order to identify areas of possible intervention

It is important to identify eating habits and routine of the whole family as interventions aimed at family behavioral patterns are more likely to be successful," Dr H P Singh, adds.

The birth, family and developmental history should be reviewed. Blood pressure should be measured and a head to toe examination performed for signs of pathological obesity and co-morbid conditions. Acanthosis nigricans, hyperpigmented and hypertrophic skin in the nape of neck and axilla are the hallmark of insulin resistance. The pubertal status is assessed by Tanner's sexual maturity ratings; commencement of breast enlargement before 8 years in girls and testicular or penile growth before 9 years in males indicates precocious puberty. It may be difficult to distinguish adipose tissue in the breast from true breast development but the presence of pigmented erectile areolaepoints to the latter. In males, stretched penile length is assessed to rule out micropenis in cases of suspected hypogonadisor growth hormone deficiency. Quite often, a supra pubic pad of fat may hide the penis and give a false appearance of micropenis.

The treatment of childhood obesity poses a challenge andrequires long-term and persistent efforts at the

individual as wellas family level. Excessive calorie restriction may be detrimentaland weight loss is not recommended unless a serious co-morbidcondition exists. The goal is to provide enough calories tomaintain linear growth without further increase in weight.

The management plan encompasses dietary and physical activity interventions. Simply providing education may not be effective and behavioral therapy techniques including environmental control approaches (parental modeling of healthful eating and activity) as well as monitoring and goal setting, are more effective. In the initial interview, the physician should determine the degree of child's/parents motivation orreadiness to change. The family is then counseled regarding healthy lifestyle approaches guided by the extent of family motivation. Discussions should be non-judgmental and focuson habits related to eating and physical activity. The approach should promote positive family change without decreasing the self-esteem of the child or family members.

What to take

Healthy practices for meal preparation such as boiling, roasting and steaming should be encouraged instead of deepfrying. Meals including dairy products, vegetables and fruits should be planned according to sufficient calorie intake, balanced food, seeking behavior of proper appetite and eating interest.

Advice

Caloric excess with lack of physical activity is the major cause of childhood obesity. A pathological cause should be suspected in those children who have concomitant short stature, dysmorphism, developmental delay, hypogonadismor early-onset severe obesity. Obese children and adolescentsneed to be appropriately worked up for associated comorbidities. Treatment encompasses a holistic approach to

diet and physical activity. The use of drugs and bariatric surgery is limited to adolescents with severe obesity and co morbidities who have failed behavioral management. Medical practitioners are best placed for diagnosing, counselingand initiating management of obese children. They can playa vital role in curbing the obesity epidemic and need to be

active advocates of healthy lifestyle at the individual, community and national level.

"Overfeeding of low-birth weight babies and rapid catch-up growth in infancy are associated with increased risk of obesity On the other hand, prolonged breast feeding is beneficial and children who are breast-fed for a longer duration have lesser risk of obesity. This is possibly related to the physiologic properties of human milk or feeding patterns associated with breast-feeding. Certain socio-cultural beliefs in India such as viewing a fat child as healthy, force-feeding children and encouraging them to eat large quantities of butter/ghee aggravate the problem of obesity."

Dr Sachin Bhargav, Senior Child Specialist

Unhealthy Growth

Childhood Obesity is rising at an alarming rate in the country. Urgent measures are needed to tackle the growing menace

BY DR NEELAM MOHAN

One of the rising epidemics in India is obesity in children. In our country, a fat child was and still is considered attractive and isoften viewed as "healthy child". It's high time we raised awareness amongst parents regarding the harmful effects and the risk factors of obesity in children.

Prevalence of obesity and overweight in India

A recent study from South India stated that the prevalence of obesity in children, aged 6–15 years was 3% for boys and 5.3% for girls in urban schools in Kochi and Kerala. Also, prevalence of obesity (7.5%) and overweight (21.9%) were the highest among high income group and lowest (1.5% and 2.5%) among low income group. Another study from rural area in Bangalore showed that the prevalence of obesity among 1,170 college students aged between 15 to 19 years was 7.2% and another 6.1% were overweight.

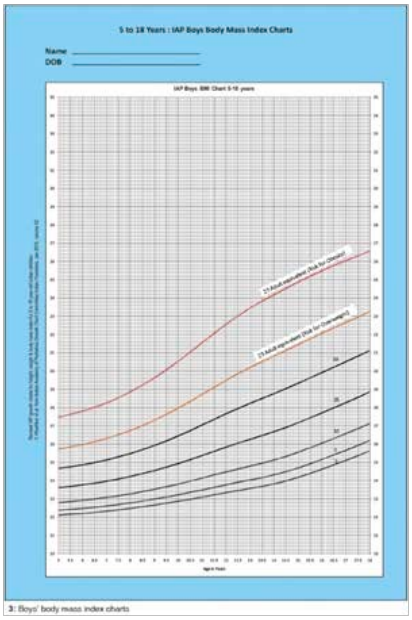
A study from North India reported prevalence of childhood obesity of 5.59% in higher socio-economic strata when compared to 0.42% in lower socio-economic strata. However, a recent study has shown that 3 to 5% of children from a government school in North India were overweight. Slowly, but steadily, the epidemic of childhood obesity seems to be spreading to the middle and lower socio-economic groups as well.

What is obesity and how do we measure it?

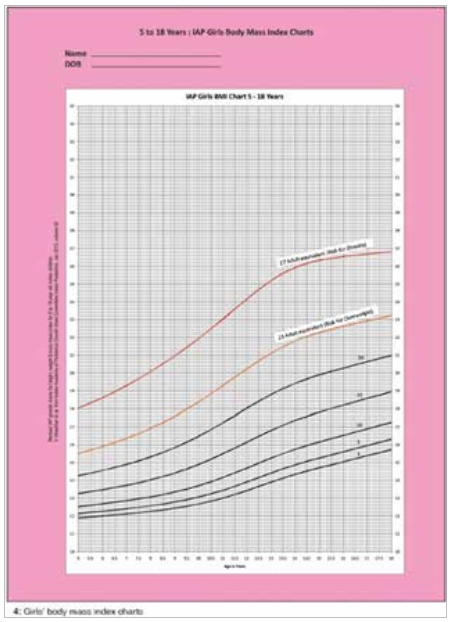
The World Health Organization (WHO) defines obesity as a condition of abnormal or excessive fat accumulation in adipose tissue, to the extent that health may be impaired.

Measurement of obesity

Weight adjusted for height squared [body mass index (BMI in kg/m2)] is a useful index to assess overweight and is a fairly reliable surrogate for adiposity/fat.



3: Boys' body mass index charts



4: Girls' body mass index charts

A limitation of BMI, however, is that it cannot differentiate an obese individual from a muscular one and cannot locate the site of fat, e.g., people with 'central obesity' may have normal BMIs. As per WHO classification (for adults), BMI >25 = overweight and BMI >30 = obesity.

> A surgery for reattaching the retina is the most successful way to treat retinal detachment. Depending upon the characteristic and age of the patient, appropriate technique is adopted for the treatment. There are basically 3 ways to treat retinal detachment.

The Inter-national Obesity Task Force (IOTF) has proposed the standards for adult obesity in Asia and India – BMI >23 = overweight and BMI >25 = obesity. Similarly, as per Coronary Artery Disease in Asian Indians (CADI Research Foundation), the abdominal girth (cut off Waist circumference) >80 cms in Asian Indian women and >90 cms in Asian Indian Men are classified as central obesity.

In children and adolescents, BMI charts are available from CDC and IAP separately for boys and girls which when plotted on the graph gives a clear picture regarding overweight / obesity.

What is the Risk of obesity in children?

More than 50% of fat children become obese adults and all complications of adult obesity are made worse by the obesity begins in childhood.

Obesity and overweight in children are linked with more serious and chronic health problems such as follows –

Respiratory – Asthma, Obstructive Sleep Apnea (OSA), Obesity-hypoventilation syndrome, Exertional dyspnea, Chronic obstructive pulmonary diseases (COPD), Pulmonary Embolism, Aspiration Pneumonia

Endocrine Disturbances – Type 2 diabetes (High association) which may indirectly or directly damage nerve cells and blood vessels, insulin resistance, increased insulin secretion, decreased progesterone levels in women and decreased testosterone levels in men, polycystic ovarian syndrome in adolescent females.

Cardiac – High blood pressure, high cholesterol, heart disease,

Stock up	Cut back
Eat more vegetables	Aerated drinks/Sweetened drinks
Eat more fruits	Biscuits/cookies/chips
Increase water intake	Fried food/packed foods
Prefer grilled foods	Packed soups
Consume whole grains; whole wheat; Multigrain bread	Chocolates/Pastries/canned juices
Dairy Products	Coconut, red meat, white flour

dyslipidemias

Hepatic and gastric disorders – Hepatic steatosis, gall stones, Gastro-oesophageal reflux (GERD) and Gastric emptying disturbances

Mental health – Restlessness, Depression, Disordered sleep patterns, low self confidence and self-esteem

Orthopedic disorders – Slipped capital femoral epiphysis and Blount disease Arthritis and Osteoarthritis in later stages

Risk factors for obesity in Children

Eating Habits – Change ineating patternandchoices of children are the major culprit for rising overweight & obesity in children and adolescents in India.

There is a major shift towards consumption of high calorie fast food, junk food with consumption of cold drinks/sweetened drinks & foods with huge amount of sugars. Emphasis on consumption of vegetables and fruits is not adequate.

Parents due to ignorance or lack of time in cases of families with working women overlook the feeding habits of children.

Kids nowadays spend more time indoor watching TV, playing video games, using smart phones/computers and the time spent in outdoor physical activity is tremendously reduced. Unfortunately physical activities/ physical education program in schools are also much less now.

Toddler nutrition – In presenttime, childrenare most of the times overfed rather than giving complete nourishment; this is because mother thinks that overfeeding will complete their nourishment. It's often seen that when parents/mothers do not work on the right feeding habits in toddlers, it gets difficult to inculcate those habits later in childhood. A toddler who does not taste or eat vegetables + fruits at this age mostly would be reluctant to do so in later stages of childhood.

Parents due to ignorance or lack of time in cases of families with working women overlook the feeding habits of children.A toddler who does not taste or eat vegetables + fruits at this age mostly would be reluctant to do so in later stages of childhood

Myths and Truths about obesity in children

Myth – Childhood obesity is genetic, so there's nothing you can do about it?

Truth – Though genetic constitution does influence in weight of an individual, it's the eating pattern and physical activities that are major contributors towards obesity.

Myth– Breastfeeding longer than six months may result in children being less overweight later in life?

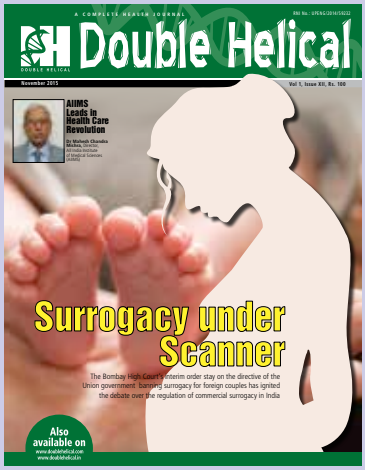
Truth – Various studies have found that breastfeeding for longer than six months may result in children being less overweight later in life.

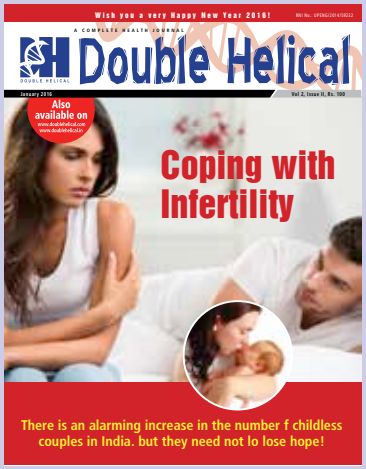
Myth – Children who are obese or overweight should be put on a diet.

Truth– What is required is to avoid overfeeding and to give a balanced healthy diet with do's & don'ts to gradually reduce the weight.

(The author is Director, Department of Paediatric Gastroenterology, Hepatology & Liver Transplantation, Medanta, The Medicity Hospital, Gurgaon.

Your Guide to Healthy Living





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Choking To Death

Exposure to high levels of air pollution can cause a variety of adverse health outcomes. Air pollutants that are inhaled have serious impact on lungs and the respiratory system

BY DR A K AGARWAL

Massive air pollution increases the risk of respiratory infections, heart disease as well as stroke and lung cancer. Both short and long term exposure to air pollutants have been associated with health impacts. More severe impacts of air pollution affect people who are already ill, children, the elderly and the poor people are even more susceptible.

Although air quality in developed countries has been generally improved over the last decades, the adverse health effects of particulate air pollution, even at relatively low levels, remain a global public health concern. The most health-harmful pollutants – closely associated with excessive premature mortality – are fine PM2.5 particles that penetrate deep into lung passageways. Particulate matter, or PM, is the term for particles found in the air, including dust, dirt, soot, smoke, and liquid droplets.

Controlling the demon

Exposure to air pollutants is largely beyond the control of individuals and requires action by public authorities at the national, regional and even international levels. The health sector can play a central role in leading a multi-sectoral approach to the prevention of exposure to air pollution. It can engage and support other relevant sectors (transport, housing, energy production and industry) in the development and implementation of long-term policies to reduce the risks of air pollution to health.

Alarmed at the current air pollution levels in the city, the Delhi high court recently termed it like living 'in a gas chamber' and demanded an immediate action plan from the Centre and the state government to combat deteriorating air quality. Zeroing in on emissions by vehicles and constructionrelated particulates as key pollutants in the capital, the court recently ordered a clampdown on both, asking the government agencies to take steps.

As per the report many families with elderly members ailing from respiratory illnesses have installed oxygen cylinders at home for emergency purposes because they can't keep running to the hospital for every frequent breathing crisis that arises.

The medical practitioners feel that problem needs the attention of not just a single man, but of an entire system, whose combined effort must be to make whole capital city's air breathable again.

Delhi, Beijing neck-and-neck

After a neck-and-neck race with Beijing over the past few winters, Delhi may soon find itself without a rival for the `most-polluted-city' crown. The Chinese city is doing its best to fall behind although, as happened last week, it sometimes nudges ahead with a wind-aided spurt.

A recent assessment by Beijing-based Greenpeace East Asia shows that between August 2014 and August 2015, Delhi's levels of PM2.5 (fine, respirable pollution particles) were far higher than those in Beijing.

The air quality of capital of India is being deteriorated day by day due to increasing level of pollution. When people of Metro city breathe, it seems something they stuck inside. Despite precautions many are experiencing the adverse effects of poor air. Almost all of them claimed to be suffering from respiratory problems or chest congestion.

A report released by Delhi Pollution Control Committee (DPCC) and Beijing Municipal Environmental Monitoring Centre stations in Beijing, Greenpeace East Asia has highlighted that the Chinese city's monthly PM2.5 averages were between 100gm3 and 200g m3. Delhi's monthly averages for October, November, December and January were well above 200gm3. A microgram (g) is a thousandth part of a milligram.

The report suggests that health interventions must be guided by both emission and exposure estimates. A policy that addresses multiple sources of pollution will be critical for prevention and dealing with existing health impacts of air pollution. This is why we have recommended representation of many

ministries and coordination between them to achieve this. The health effects of air pollution highlighted by the committee range from childhood pneumonia and asthma to cardiovascular diseases (heart attacks and strokes), chronic lung disease, cancers and low immunity in adults.

It is not simply those who spend a lot of time outdoors who are affected. We get month-old babies suffering from blockage of the nose due to pollutants. They are unable to breathe normally . All we can do is to open up the upper airway by administering saline drops.

Large concentrations of particulate matter are typically emitted by sources such as diesel vehicles and coal-fired power plants. Particles less than 10 micrometers in diameter (PM10) pose a health concern because they can be inhaled into and accumulate in the respiratory system. Particles less than 2.5 micrometers in diameter (PM2.5) are referred to as "fine" particles and pose the greatest health risks. Because of their small size (approximately 1/30th the average width of a human hair), fine particles can lodge deeply into the lungs.

Choking to death

Worldwide 3.7 million premature deaths are attributable to ambient air pollution in 2012. About 88% of these deaths occur in low and middle income countries.

The WHO maintains a worldwide, public database on urban outdoor air pollution in its Global Health Observatory. The database contains measured outdoor air pollution levels of PM2.5 and PM10 from 1100 cities in 92 countries for the years 2003-2010. These are used for estimating mean annual exposures of the urban population to fine particulate matter. In 2013, WHO began collaborating with major institutions and agencies worldwide in the development of a global air pollution platform that includes data on air pollution concentrations based on satellite monitoring, chemical transport models and ground measurements, inventories of pollution emissions from key sources, and models of air pollution drift – permitting estimates of air pollution exposures even in areas where there are no ground level monitoring stations.

Government's role imperative

The Governments can identify their main sources of ambient air pollution, and implement policies known to improve air quality, such as promotion of public transport, walking, and cycling (rather than transport relying on private motor vehicles); promotion of power plants that use clean and renewable fuels (e.g. not coal), and improvements in the energy efficiency of homes, commercial buildings and manufacturing.

Essential accompanying steps include increasing awareness about the high disease burden from ambient air pollution and its main sources, as well as highlighting the importance of taking action now to implement country-specific interventions. In addition, the use of effective monitoring to evaluate and communicate the impact of interventions is also an important tool in raising awareness. It can help drive policy action that brings benefits for health, climate and the environment.

The WHO estimates that 12.7% of deaths could be averted by improving air quality worldwide. Lower levels of air pollution will reduce the burden of respiratory and cardiovascular disease-related illnesses, health-care costs, and lost worker productivity due to illness, as well as increasing life expectancy among local populations.

In addition, actions that reduce ambient air pollution will also cut emissions of short-lived climate pollutants, particularly black carbon which is a major component of soot emissions from diesel vehicles, and other sources, as well as greenhouse gases (CO_2) contributing to longer-term climate change impacts. Climate change produces a number of adverse effects on health. This includes those from drought and extreme weather events (e.g. windstorms, floods), such as water-borne and food-borne diseases. It also increases the prevalence of vector-borne diseases like dengue or malaria.

Developing Vs Developed countries

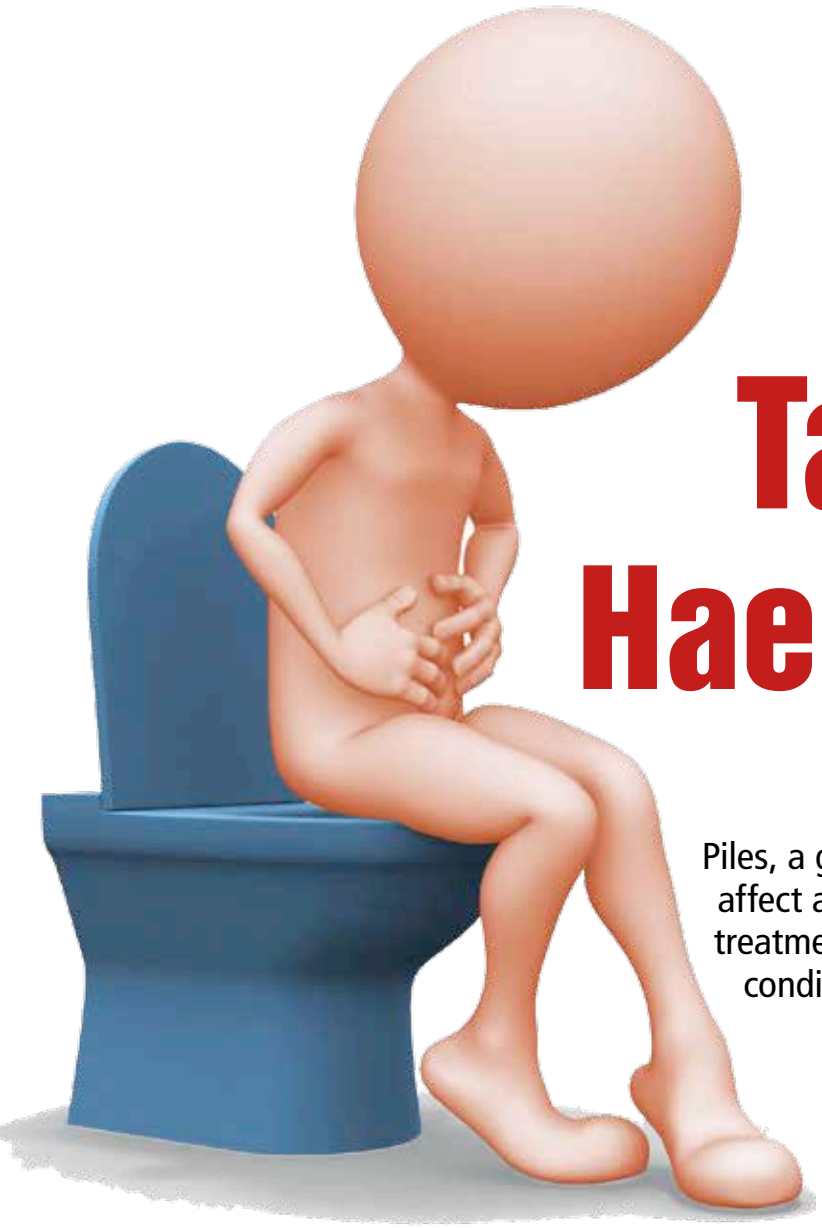
Public health recognizes air pollution as an important determinant of health. Today this is especially the case in developing countries where exposure to air pollution is now higher than in developed countries, where mitigation measures led to reductions in exposure. There is significant inequality in the exposure to air pollution and related health risks: air pollution combines with other aspects of the social and physical environment to create a disproportional disease burden in less affluent parts of society.

Mortality from heart disease and stroke are also affected by risk factors such as high blood pressure, unhealthy diet, lack of physical activity, smoking, and household air pollution. Some other risks for childhood pneumonia include suboptimal breastfeeding, underweight, second-hand smoke, and household air pollution. For lung cancer, and chronic obstructive pulmonary disease, active smoking and second-hand tobacco smoke are also main risk factors. These risk factors may contribute to deaths that are caused by ambient air pollution.

Reducing the public health impacts of ambient air pollution requires addressing the main sources of air pollution, including inefficient fossil fuel combustion from motor vehicle transport, power generation and improving energy efficiency in homes, buildings and manufacturing.

Reducing the health effects from ambient air pollution requires action by public authorities at the national, regional and even international levels. Individuals can also contribute to improving air quality by choosing cleaner options for transport or energy production.

(The author is Professor of Excellency and Ex-Dean, Maulana Azad Medical College, New Delhi)



Tackling Haemorrhoids

Piles, a grave pathological condition, can affect anyone. But with an appropriate treatment and a change in lifestyle, the condition can be effectively treated

BY DR SANDEEP KUMAR

Piles, also known ashaemorrhoids, are inflamed veins and muscles around your anus or in your anal canal. The anal canal is a short, muscular tube with blood vessels that connects your rectum (back passage) with your anus. Piles develop when the anal canal becomes swollen with clumps and cushions of tissues possibly as a result of straining on the toilet. Sometimes, piles can be painful and bleed if they become damaged.

In the majority of cases, piles are effectively treated with over-the-counter medications, a good fluid intake and by following a diet high in fibre. However, in severecases, the piles may have to be surgically removed.

Causes

Piles are common in people with chronic digestive disturbances – especially constipation.Constipation is frequently caused by improper diet, lack of exercise, inadequate intake of water, and stress. Other contributors include laxative abuse, irritable bowel syndrome, and hypothyroidism.

The condition is also observed in the elderly people and during pregnancy period. If a lady is pregnant, the additional pressure that her growing baby places on her uterus can result in piles.They may also develop due to changes in the hormones in the body and the increased pressure in your abdomen (tummy), although doctors aren't sure.

Childbirth can increase the problem, but fortunately, most haemorrhoids caused by pregnancy get resolved after delivery.Another common cause of piles is obesity, because when any one is overweight, his/her body simply does not have enough force to generate proper elimination of the waste fluids and matter through intestine.

Moreover, due to the lack of proper balanced diet the incidence of piles is increasing day by day.

Symptoms

In most cases, piles are not serious and go away on their own after a few days. An individual with piles may experience the symptoms like a hard lump around the anus. It consists of coagulated blood known as thrombosed external haemorrhoid. Accompanied with a feeling that the bowels are still full, this can become painful after going to the toilet. Itchiness around the anus, redness and soreness around the area of the anus, bright red blood after a bowel movement, mucus discharge when emptying the bowels and pain while defecating are some of the common symptoms of a thrombosed external haemorrhoid.

Piles can be at any age, but they are most common in people aged between 45 and 65. So it is difficult to know exactly how many people get piles. According to the National Institute of Diabetes and Digestive and Kidney Diseases, both men and women could have piles by the age of 50.

Depending on your toilet habits, the problem can become severe thereby resulting in additional irritation, bleeding and itching. If you suffer from haemorrhoids, it's important not to strain from a bowel movement. Excessive rubbing or cleaning of the area can also exacerbate your problem. Other conditions with symptoms which can mimic those of haemorrhoids are anal abscesses, anal fissures and fistulas, and non-specific itching or irritation (commonly termed pruritus ani).

Treatment

Treatments can help significantly reduce the discomfort and itching that many patients experience. Water is the best drink and the patient may be advised to increase his/her water consumption. Some experts say too much caffeine is not good.

A good doctor will initially recommend some lifestyle changes like diet and body weight. A change in diet can help keep the stools regular and soft. This involves eating more fibre, such as fruit and vegetables, or switching your cereal breakfast to bran.

Nowadays, stapled haemorrhoidectomy is being successfully used for surgical technique for treating haemorrhoids. It is the treatment of choice for third-degree haemorrhoids (haemorrhoids that protrude with straining and can be seen on physical exam outside the anal verge. Persistent or intermittent manual reduction is necessary). Stapled haemorrhoidectomy is a misnomer since the surgery does not remove the haemorrhoids but, rather, the abnormally lax and expanded haemorrhoidal supporting tissue that has allowed the haemorrhoids to prolapse downward.

The technique does not involve any stitches, is painless and needs no longer stay in hospital. For stapled haemorrhoidectomy, a circular, hollow tube is inserted into the anal canal. Through this tube, a suture (a long thread) is placed, actually woven, circumferentially within the anal canal above the internal haemorrhoids. The ends of the suture are brought out of the anus through the hollow tube.

Stapled haemorrhoidectomy, although

Piles are common in people with chronic digestive disturbances – especially constipation. The condition is also observed in the elderly people and during pregnancy period. They may also develop due to changes in the hormones in the body and the increased pressure in your abdomen (tummy)

it can be used to treat second degree haemorrhoids (haemorrhoids that extend outside the anus after a bowel movement or straining, but return inside by themselves), usually is reserved for higher grades of haemorrhoids - third and fourth degree. If the external haemorrhoids are large, a standard surgical haemorrhoidectomy may need to be done to remove both the internal and external haemorrhoids.

Steps to prevent constipation

Eat fibre-rich foods. Vegetables are a great source of fibre. Ideally, you'd want to eat those recommended for your individualnutritional type. Consuming a wide variety of vegetable fibre will provide the bulk needed for your stool to pass comfortably through your intestines.

If you need extra fibre, the doctors suggest whole organic flaxseeds. Grind them in a coffee grinder and add one or two tablespoons to your food. You can also try organic psyllium, which helps alleviate both constipation and diarrhoea.

They recommend avoiding any type of non-organic psyllium, such as Metamucil. Proceed slowly if you are not used to getting much fibre in your diet, as you may experience some bloating and gas as your digestive system gets accustomed to the added fibre.

Consider eating fresh oranges for the flavonoids they contain. Flavonoids are powerful photochemical, which promote the health of your veins. You might also consider adding coconut oil to your diet. South Pacific tropical islanders are known to consume at least half the fat in their diets from coconuts, with the result that many typical Western illnesses and conditions – including haemorrhoids – are uncommon.

Drink plenty of pure water either clean spring water or water filtered by reverse osmosis. Use your thirst and the colour of your urine as guides for whether you're adequately hydrated. Your urine should be a light yellow colour. If it is dark yellow, then it is quite likely that you are not drinking enough water. (A bright yellow colour is usually the result of vitamin B2, found in most multi-vitamins.)

Adequate fibre and water create softer stools. A softer stool moves more easily through your colon and lessens the need for straining.Exercise regularly to keep your digestive tract stimulated.Take a high-quality probiotic. Balancing your gut bacteria will not only help your constipation, but your overall health as well.

> Doctors initially recommend some lifestyle changes like diet and body weight. A change in diet can help keep the stools regular and soft. This involves eating more fibre, such as fruit and vegetables, or switching your cereal breakfast to bran.

Practice Good Toilet Habits

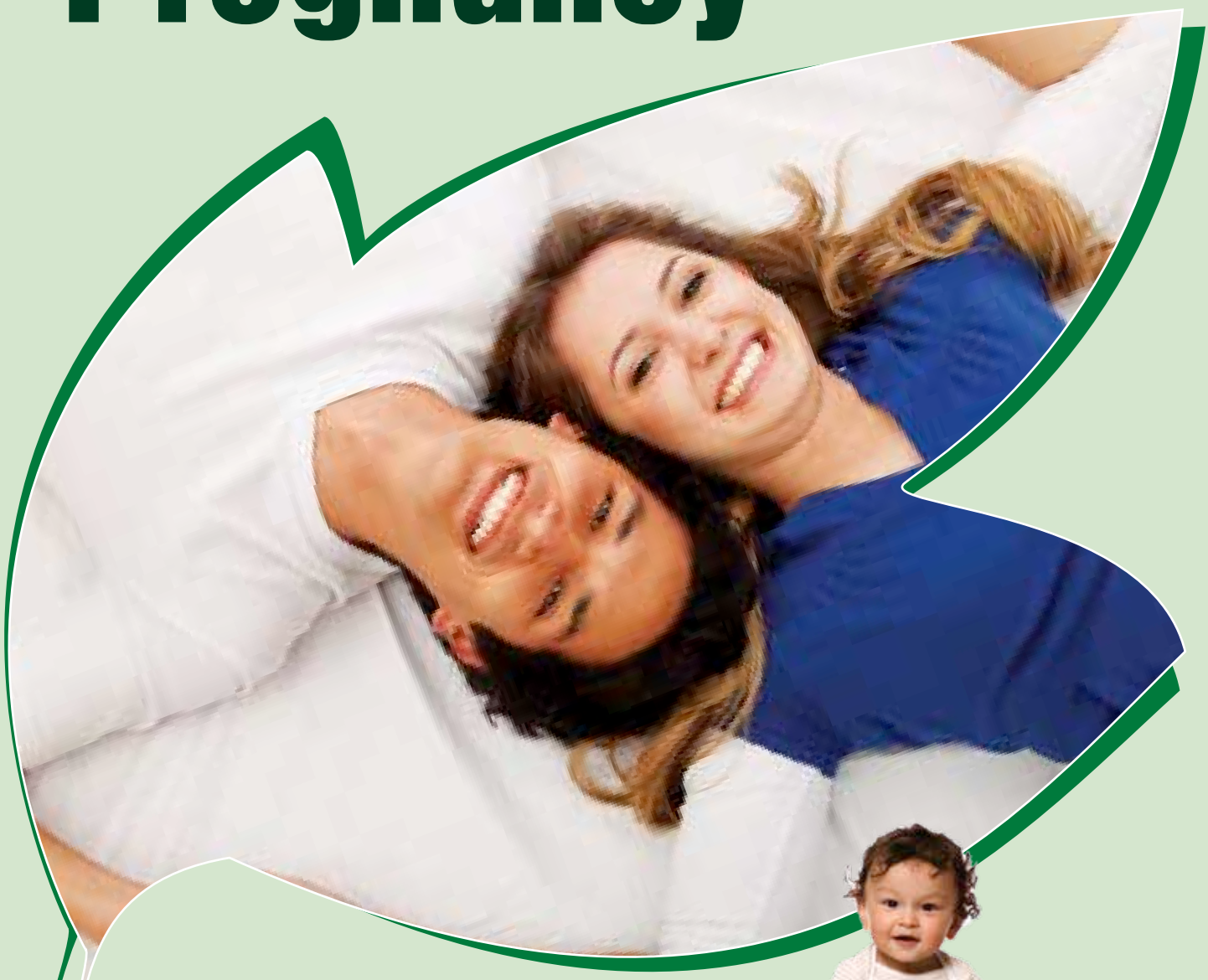
Allow your body to work naturally by using the toilet whenever you feel the urge to have a bowel movement. Go as soon as you feel the need – delaying can cause or aggravate constipation.

Don't sit on the toilet for prolonged periods. This increases pressure on your rectum. Limit time on the toilet to three to five minutes per sitting. If necessary, get up, walk around or otherwise distract yourself and wait for the urge to return before returning to the toilet. You can also use a small footstool while seated on the toilet to elevate your legs and relieve pressure on swollen tissue.

Don't strain excessively to have a bowel movement. Exert gentle pressure only, for no more than 30 seconds per attempt, focus on using your abdominal and pelvic muscles.Don't aggressively rub the area with toilet paper or other types of wipes, as this will further irritate and inflame your skin.If possible, clean the area in a bath or shower without using soap – soap is an irritant. Make sure to rinse the area well and gently pat dry with a soft towel.

(The author is Senior Consultant,Surgery, Sri Balaji Action Medical Institute, New Delhi)

Preparing for Pregnancy



Following Ayurvedic principles can boost not only fertility but also help the couple have a truly healthy child

BY DR PARTAP CHAUHAN

Dr Partap Chauhan

We come across a number of couples who have tried every kind of fertility treatment available, but have not been able to find the right solution to their fertility problems.

With pressures of modern life, mental and emotional stress, and lack of love in relations, infertility cases are on the rise. More and more couples are unable to produce children. Moreover, with one in four early pregnancies ending in miscarriage, Ayurveda's approach can help preempt any untoward chances of such cases.

The benefits of following Ayurvedic principles go far beyond just a trouble-free pregnancy. The traditional medicine science does not just help you to increase fertility with diet, behaviours, and herbal supplements; it also focuses on how to give birth a truly healthy child.

Factors Involved in Creating a Healthy Child

According to Ayurveda, preparing for conception can be easily compared to the process of farming. Just like the health of a crop depends on the quality of soil, seed, timing of sowing, and amount of watering it gets, the health of a baby depends on the health of its parents.

For a pregnancy to be healthy and successful, a couple needs to take care of the following four essential factors:

- Sperm/Ovum (Seeds)
- Uterus (Soil)
- Nourishment (Water)
- Time for Conception (Timing of Sowing)

Reproductive health, in both men and women, depends on the health of the reproductive tissue or shukra dhatu. In women, shukra creates the ovum as part of the monthly cycle, and in men the semen is formed due to sexual stimulation.

The shukra is created as part of a long chain of metabolic transformations. It starts with the digestion of food, then goes on to transformation of food to nutrient fluid, blood, muscle, fat, bone, bone marrow, and finally, to shukra tissue. Healthy shukra tissue, then, according to Ayurveda, depends on the health of all the other tissues in the body.

Diet to Boost Fertility

- Fresh, organic fruits and vegetables
- Whole grains
- Dairy proteins, including milk, lassi (buttermilk), and panir (fresh cheese made of milk)
- Mung daal (split green beans)
- Soaked almonds or soaked walnuts (you can grind them and add them to your vegetables)
- Sweet, juicy fruits such as mangoes, peaches, plums, and pears
- Dried fruits such as dates, figs, and raisins
- Asparagus
- Broccoli
- Date shake
- Mango shake
- Rice pudding
- Spices such as ajwain (bishop's weed) powder, cumin (which purifies the uterus in women and the genitourinary tract in men), turmeric (to improve the interaction between hormones and targeted tissues), and black cumin.
- If your digestion is strong, eat urad daal (Split Black Gram) cooked with equal parts of turmeric, cumin, coriander, and fennel
- A banana cooked in ghee, cinnamon, and cardamom is a tasty and wholesome dessert for people with strong digestion

What Not to Take

- Foods containing preservatives and other chemicals, such as artificial sweeteners.
- Foods high in fat should also not be consumed.
- Diet soda should be avoided, as it contains aspartame.
- Caffeine should also be limited, especially if you're having trouble

conceiving.

- Refined carbs, such as white bread, pasta and rice, should be limited.
- Eating a lot of meat is not recommended.
- Drinking alcohol

The Right Lifestyle

It is very important for couples who wish to conceive a child to have positive mental feelings. They should avoid tension or anger and keep their mind relaxed. They are advised to practise meditation, pranayama and yoga on a regular basis to keep their bodies and minds fit.

The following lifestyle factors can greatly reduce your ability to get pregnant:

Smoking: Smoking presents a major risk to not only your overall health and well-being, but also to your reproductive health. Smoking decreases your ability of getting pregnant because it interferes with your body's ability to absorb vitamin C and zinc.

Drugs: Drugs can also affect women's reproductive health. Both over-the-counter and illegal drugs affect the body's natural functions as well as impair nutrition.

Exposure to Chemicals and Pesticides: Women who are trying to conceive should limit their exposure to pesticides and chemicals as they can hinder your chances of getting pregnant.

Stress: Stress can have a major impact on women's fertility. The importance of a positive attitude is essential when trying to get pregnant.

Weight: Being both overweight and underweight can impair a woman's chances of getting pregnant. If you are underweight, your reproductive system will shut down because of the body's inability to maintain a pregnancy. On the other hand, being overweight or obese reduces a woman's chances of getting pregnant.

Excessive Exercise: Staying physically fit is essential when you're trying to get pregnant. However, it is important to note that excessive exercise is unhealthy and can impair your ability to get pregnant.

(The author is Director, Jiva Ayurveda, New Delhi)

Treating Incontinence

Dr S P Yadav

Bed wetting is nobody's fault. Understanding and compassion can help children and adults outgrow this habit

BY DR S P YADAV

Bedwetting is a normal developmental stage for children, but it can be a symptom of underlying illness or disease in adults. About two percent of adults suffer from bedwetting.Physical and psychological conditions can lead to bedwetting in some people.

Bedwetting is an issue that millions of families face every night. It refers to the unintentional passage of urine during sleep. Enuresis is the medical term for wetting, whether in the clothing during the day or in bed at night. Another name for enuresis is urinary incontinence.

It is extremely common among young kids but can last into teen years. Bedwetting is the loss of bladder control during the night. The medical term for bedwetting is nocturnal (night time) enuresis. Bedwetting can be an embarrassing issue, but in many cases, it is perfectly normal.

Common causes of bedwetting among children and adults include small bladder size, urinary tract infection, stress, fear, or insecurity, neurological

disorders, diabetes, prostate gland enlargement, sleep apnea (abnormal pauses in breathing during sleep) and constipation. The hormonal imbalances can also cause bedwetting in some people. Human body makes a hormone called antidiuretic hormone (ADH). The ADH tells your body to slow down the production of urine overnight. The lower volume of urine helps normal bladder hold urine overnight. People whose bodies don't make sufficient levels of ADH may experience nocturnal enuresis because their bladders can't hold higher volumes of urine.

Diabetes is another disorder that can cause bedwetting. The bodies of people with diabetes don't process glucose (sugar) properly and may produce larger amounts of urine. The increase in urine production can cause children and adults who normally stay dry overnight to wet the bed.

Gender and genetics are among the risk factors for bedwetting. Both boys and girls may experience episodes of nocturnal enuresis during early childhood. Boys are more likely to wet the bed when they get older.

Family history plays a role, too. You're more likely to wet the bed if a parent, sibling, or other family member has had the same issue.

Bedwetting is also more common among children diagnosed with attention deficit hyperactivity disorder (ADHD). Researchers don't yet fully understand the relationship between bedwetting and ADHD.

Certain lifestyle changes may help end bedwetting. Setting limits on fluid intake plays a large part in controlling bedwetting. Try not to drink water or other liquids within a few hours of bedtime to reduce the risk of having an accident. Drink the majority of your daily fluid requirements before dinner time. This will ensure that your bladder is relatively empty before bedtime.

You should also cut out caffeinated or alcoholic drinks in the evening. Caffeine and alcohol are bladder irritants and diuretics. That means they'll cause you to urinate more.

Devise a voiding schedule to help you stay dry overnight. A voiding schedule simply means that you urinate on a regular timetable, like every 1 to 2 hours. Use the bathroom right before you go to bed to empty your bladder fully before sleep.

Bedwetting can sometimes occur during a stressful event in a young person's life. Conflict at home or school may cause your child to have nightly accidents. The birth of a sibling, moving to a new home, or another change in routine can be stressful to children and may trigger bedwetting incidents.

Understanding and compassion can help your child feel better about their situation, which can put an end to bedwetting in many cases.Refrain from punishing bedwetting incidents. Praise your child when they stay dry. This will help them feel good about not wetting the bed.

The brain and bladder gradually learn to communicate with each other during sleep, and this takes longer to happen in some kids.Low anti-diuretic hormone (ADH) tells the kidneys to make less urine. Studies show that some kids who wet the bed release less of this hormone while asleep

The brain and bladder gradually learn to communicate with each other during sleep, and this takes longer to happen in some kids.Low anti-diuretic hormone (ADH) tells the kidneys to make less urine. Studies show that some kids who wet the bed release less of this hormone while asleep. More urine can mean more bedwetting.

Deep sleepers families have been telling for years that their children who wet the bed sleep more deeply than their kids that don't. Some of thesechildren sleep so deeply, their brain doesn't get the signal that their bladder is full.

Although a child's true bladder size may be normal, during sleep, it sends the signal earlier that it's full. Full bowels press on the bladder, and can cause uncontrolled bladder contractions, during waking or sleep.

Medical causes of bedwetting are nearly always uncovered by simply talking to a child and her parents, performing an exam, and testing the urine. Being alert to urinary symptoms can ensure that if there is a problem, your child will get the treatment he needs. Most urinary problems are easily fixedif identified early.

Sometimes your child suddenly needs

to urinate more frequently (every five minutes, say) but produces only a small amount of urine each time. Frequent urination is accompanied by pain, fever, or foul smell. The girls get more infections. This is because the opening of the urethra, the tube leading from the bladder to the outside, is short and close to the anus. Bacteria can easily enter thebladder. There are some precautions you can take to minimize the risk of a urinary infection. Wipe your daughter from front to back, and teach her to do it this way.

Avoid bubble bath, which can enter and irritate the bladder and prepare the way for an infection. Make sure girls drink water or other liquids frequently. Girls should have to urinate every two to four hours during the day, and their urine should be very clear if they are drinking enough fluid.

Watch your child's urine stream, especially if you have a boy. A nice, strong flow that arcs well away from the body is normal in boys. A weak, dribbling stream, or the constant release of small amounts of urine that leave underwear or diapers perpetually damp, can signal an abnormality of the urinary tract. If a child has to strain to urinate or has a hard time starting, let your healthcare provider know; there may be a problem with the urinary tract.

If your child's urine is pink or cola-coloured or is very dark or smells unusual, bring it to your healthcare provider's attention right away. Kidney orliver problems may be the cause, and this needs immediate investigation. Early treatment may avoid kidney damage.

While most urinary problems are easily fixed, it is important to able to recognize problems so they can quickly be addressed.

It's important to know that bed-wetting is not a behavioural problem, nor should it lead to a blame game between parents and children. It's always important, as soon as the concern arises, to talk to the pediatrician to either be reassured or investigate it. It's worse to sit on it and either worry about it or pressure your child without getting good advice about how to deal with the bed-wetting.

There are two types of bedwetting-primary and secondary. Primary bedwetting is due to a delay in the maturing of the nervous system. It is an inability to recognize messages sent by the bladder to the sleeping brain. There are a number of interventions, including medical and behavioral options.

> Primary bedwetting is due to a delay in the maturing of the nervous system. It is an inability to recognize messages sent by the bladder to the sleeping brain

Secondary bedwetting is wetting after being dry for at least six months. It is due to urine infections, diabetes, and other medical conditions.

The real reason for what causes bedwetting or why it stops is still a mystery. Most of the time, bed-wetting is just the delay in the developmental acquisition of nighttime bladder control and it's not clear why some children take longer to maintain dry nights. It may also be due to hereditary issues.

The most overlooked factor that could cause bed-wetting is constipation. Constipation is a very big problem in kids. It's not serious, but it's very common and causes stomachaches and problems in the urinary tract. The rectum is located behind the bladder, so if the rectum is full, it can push on the bladder and lead to something urologists call uncontrolled bladder contractions, which can promote daytime wetting or contractions at night – or bed-wetting.

The size of the child's bladder could also contribute to the problem. If it's smaller than average, the child may urinate more frequently during the day and have less room to hold urine overnight. In other kids, the brain produces a hormone at night that reduces the amount of urine the kidneys make, causing more urine to be produced overnight. What's more, some children have difficulty waking at night even if they experience the urge to go, causing a delay in the brain's communication to the body to get up and go to the toilet.

If a child suffers from primary bed-wetting, he or she may not have an underlying condition. However, children who struggle with both daytime and nighttime incontinence should be screened for urinary tract infections, diabetes, sickle cell disease, sleep apnea and neurological disorders.

(The author is Senior Urologist and CMD, Pushpanjali Hospital,Gurgaon)

Post-Abortion Complications

Abortion is one of the most sensitive issues of all times;the repercussions of which need to be properly addressed

BY DR SHILVA

A woman may need abortion or termination of pregnancy due to multiple reasons. Sometimes, unwanted pregnancies may force such a step, at other times a couple may decide on termination due to other reasons such as severe congenital defects in the foetus or potentially dangerous health complications of the pregnancy.

Whatever the cause is, it is seen that an abortion can affect both woman's psychology and physiology. To put it more clearly, abortion is not safer than full-term pregnancy and childbirth (when pregnancy is safe). In a few studies, it is found that some women report to have a sense of relief after having an abortion and others tend to become depressed due to an unwanted abortion or miscarriage. Therefore, the reasons for relief and depression may also vary from woman to woman.

Psychological Risks

Psychological side effects of having an abortion are as real as physical side effects. Emotional and psychological effects following an abortion are more common than physical side effects and can range from mild regret to more serious complications such as depression. Post abortion, it is very much necessary to discuss all the risks in detail with an experienced professional who can address all the queries and related concerns.

One of the most important factors related to the negative emotional or psychological effects has to do with your belief about the baby inside you. Whereas some women experience lesser negative emotional consequences as theyhave a more detached view of the pregnancy and consider the foetus as an undeveloped life; other group of women might have a more emotional outlook towards pregnancy and strongly look at the life that lives and breathes inside them. Such women tend to face negative consequences after an abortion or miscarriage.

There are intense emotional and psychological risks of having an abortion. The intensity or duration of these effects will vary from one person to the other. Potential side effects includes eating disorders, anxiety, regret, anger, guilt, shame, relationship issues, sense of loneliness or isolation, loss of self confidence, insomnia or nightmares, suicidal thoughts/feelings and depression.

Psychological side effects of having an abortion are as real as physical side effects. Emotional and psychological effects following an abortion are more common than physical side effects and can range from mild regret to more serious complications such as depression. Post abortion, it is very much necessary to discuss all the risks in detail with an experienced professional who can address all the queries and related concerns

Following abortion it is quite likely that one can experience unexpected emotional or psychological side effects. Women generally report that the abortion procedure affected them more than they expected. However, it is often noticed that some individuals are more prone to experiencing some kind of emotional or psychological struggle.

Women with a higher probability of having a negative emotional or psychological side effect include:

- Women who obtain an abortion in the later stages of pregnancy
- Women with previous emotional or psychological concerns
- Women who have been coerced, forced or persuaded to get an abortion
- Women with religious beliefs that are in disagreement with abortion
- Women with moral or ethical views that conflict with abortion
- Women without support from significant others or their partner

- Women obtaining an abortion for genetic or foetal abnormalities

Suggestions

• **Get Help –** Probably the most important thing you can do when facing an unplanned pregnancy is to communicate with trained professionals who can answer your questions and discuss your individual circumstances comfortably with you. You can even consult a psychologist if you are going through anxiety.

• **Avoid Isolation –** If you are experiencing an unplanned pregnancy, you might have the tendency to withdraw from others to keep the matter a secret and/or to face the issue alone. Although it can be difficult, try to stay connected with family and friends who can support you. Too much isolation under these circumstances can lead to depression. Feel free to discuss your problem with your loved ones and take them into confidence before arriving at a decision. This will reduce your guilt or anxiety.

• **Evaluate Your Circumstances –** See the situations listed previously regarding individuals who are more likely to experience one or more side effects. Discuss your situation with someone who can help you give your perspective and understanding.

• **Avoid Pressure –** Avoid people who put pressure on you to do what they think is best. Whether you opt to become a parent, choose adoption, or have an abortion, you are the one who is going to live with your choice.

> Physical side effects after an abortion can vary from woman to woman. It is important to know about the possible detailed side effects of abortions from either an experienced health professional or a doctor. It is mandatory that your period should return about 4- 6 weeks after abortion and you can conceive again after the abortion. Moreover, take prescribed antibiotics as directed by your doctor in order to help prevent infection

So the decision has to be 100% your own.

• **Talk to Others –** See if you can find someone who has gone through an unplanned pregnancy or had an abortion to find out what it was like for them.

Physical Risks

Physical side effects after an abortion can vary from woman to woman. It is important to know about the possible detailed side effects of abortions from either an experienced health professional or a doctor. It is mandatory that your period should return about 4- 6 weeks after abortion and you can conceive again after the abortion. Moreover, take prescribed antibiotics as directed by your doctor in order to help prevent infection.

Following are the physical side effects that are frequently experienced after an abortion. The possible duration to experience these side effects are 2 to 4 weeks following procedure.

- Abdominal pain and cramping
- Spotting and bleeding

  About 5-10% of women suffer from immediate complications. It is important to be aware of the following risks:
- Heavy or persistent bleeding
- Infection or sepsis/PID/ Endometriosis
- Damage to the cervix
- Scarring of the uterine lining (Asherman's syndrome)
- Damage to other organs
- Perforation of the uterus
- Endotoxic shock and death

Suggestions

It is necessary to have an abortion from a qualified and trained professional. Besides, it is also advised if you have an abortion you meet your doctor and seek his/her medical attention in order to get healthy and fit as soon as possible.

(The author is Consultant Gynaecologist, Paras Bliss Hospital, Panchkula)

Back on Feet

Severe rheumatoid arthritis and generalized osteoporosis are treatable with knee replacement surgery which can involve partial or total replacement, depending on the condition of the patient

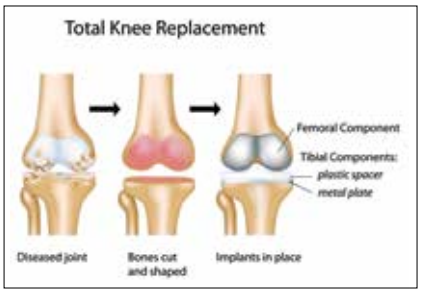
BY TEAM DOUBLE HELICAL

Rashmi Sahni (name changed), aged 52 years, came to Dr Ramneek Mahajan, Director of Orthopaedics and Head, Joint Replacement at Saket City Hospital, New Delhi with complaint of severe rheumatoid arthritis and her condition was so severe that she was brought on wheelchair. The patient, suffering from pain in both the knees, was bedridden with grossly deformed knees for a long time despite being on medical observation along with secondary flexion contracture of knee with diffuse/generalized osteoporosis. In osteoporosis, it is very complicated to perform knee replacement surgery because the bones become quite weak and porous.

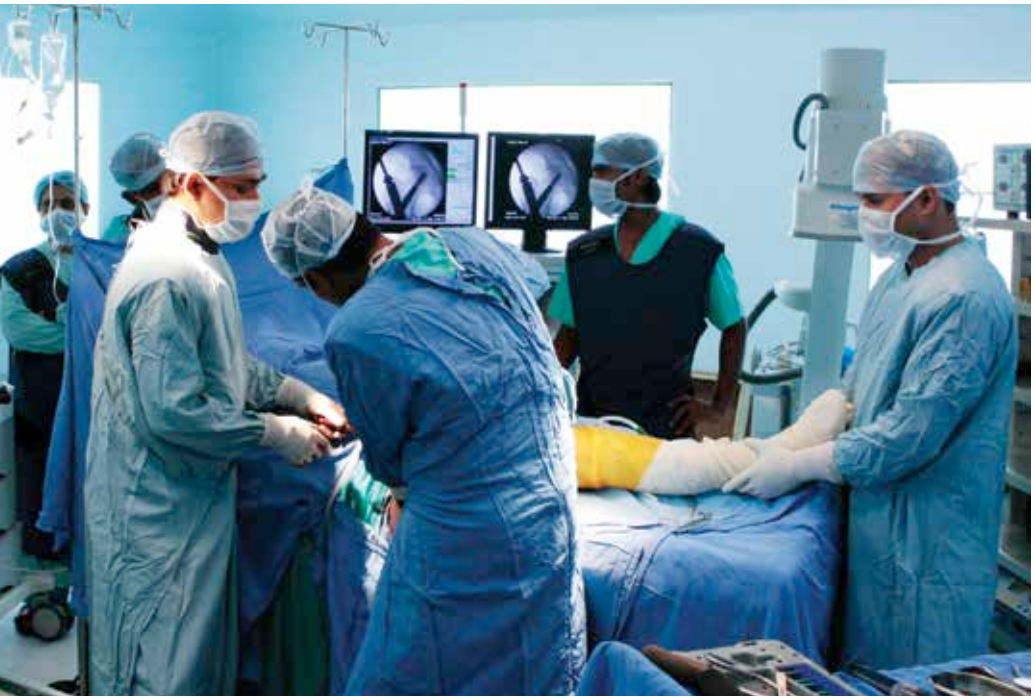
Generally, osteoporosis is a medical condition in which the bones become brittle and fragile from loss of tissue, typically as a result of hormonal changes

or deficiency of calcium or vitamin D whereas Rheumatoid Arthritis affects multiple joints of body and later the disease starts affecting the weight bearing joints of lower limbs leading to secondary arthritis.

Knee replacement surgery involves removing a damaged joint and putting in a new one. The doctor usually suggests knee replacement to improve how you live as replacing a joint can relieve pain and help you move and feel better. This technique gave a new life to Rashmi, who came with unbearable pain and was not able to stand on her own feet.



started to stand gently with utmost care to stimulate muscle. Nearly six weeks to two months later, she started with baby steps using walker and gradually due to sheer willpower and good physiotherapy, she regained her strength and now in six months she is independently mobile without support.



Every replacement is performed in different formats usually known as partial and total replacement, depending on the condition of the patient. In Rashmi's condition, after being thoroughly investigated, patient underwent surgery but due to severe Osteoporosis and associated knee deformity, constrained implants generally used for revision surgery were used for primary case.

Rehabilitation protocol was altered for her. Initial concentration was on range of movement & strength building of muscles. Nearly after a month, she

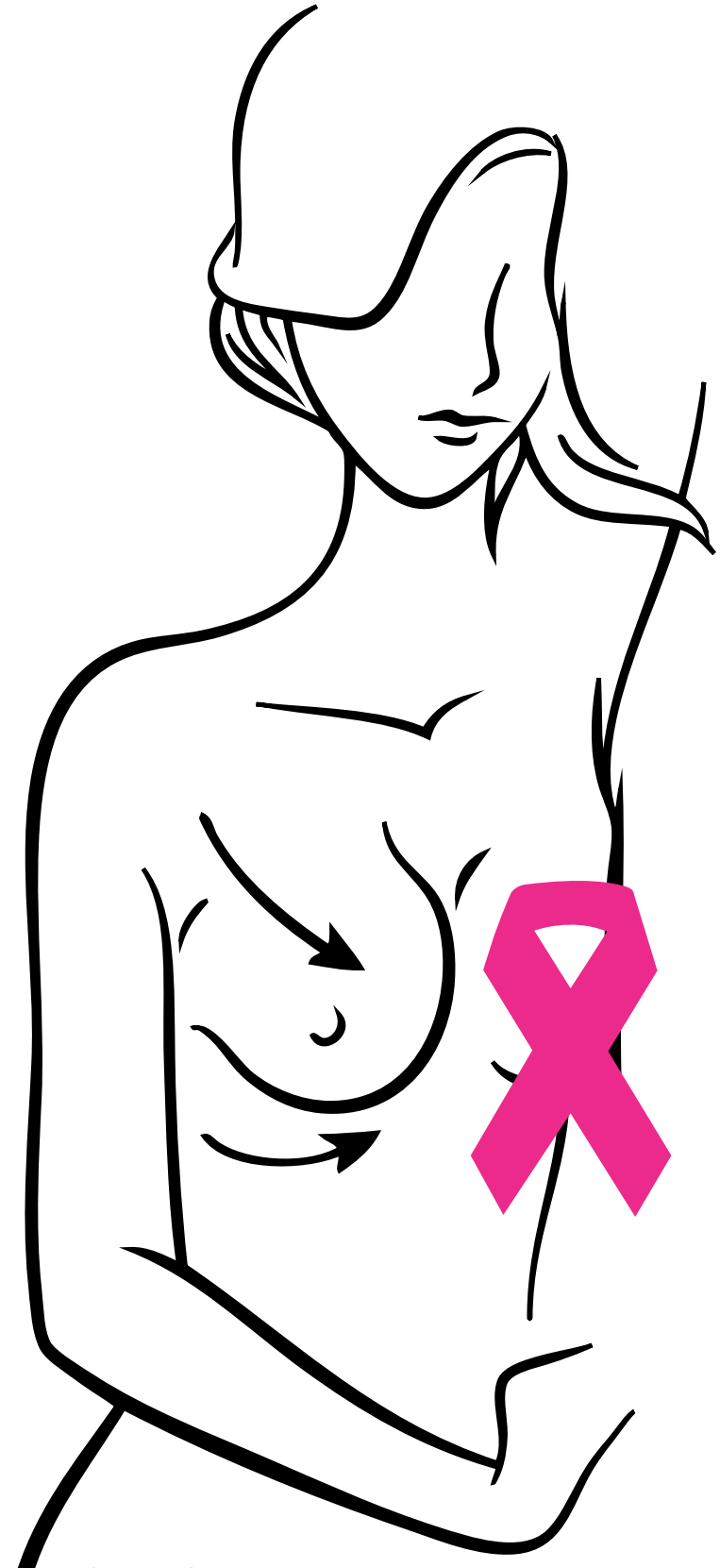
"Before I came to Dr Ramneek, I was not even able to take a single step. I hadn't slept whole nights due to unbearable pain in my knees from the last 15 years. Now after knee replacement I am not only able to stand on my feet but I can walk easily, also, I can bend my legs. It's like a new life to me because I had become hopeless and accepted my knee pain as a permanent disability but Dr Ramneek and his team proved me wrong", said a beaming Rashmi Sahni.

Surgeon Par Excellence

Dr Ramneek Mahajan has experience of over15 yearsin handling Orthopedics and Joint Replacement cases. His chosen specializations include Joint Replacement and Arthroscopy. He has to his credit approximately more than 2500 joint replacements and more than 10000 other orthopedic surgeries. He completed his M.S. and M.Ch. in Orthopedics and has done Fellowships in Joint replacement from Singapore General Hospital, Singapore; Puettlingen Hospital, Germany and The Prince Charles Hospital, Brisbane Australia.

He started his career in Government Medical College, Aurangabad. Currently, performing surgery at Saket City Hospital, New Delhi, Dr. Mahajan has also been holdingthe position of Director of Orthopaedics and Head, Joint Replacement at this hospital since 2014. Since 2005, Dr. Mahajan has been working extensively in Primary Hip, Knee and Revision Joint Replacement. He worked as Head of Orthopaedics at the Nova Specialty Hospital, Kailash Colony from 2010 to 2014. Dr. Mahajan was also a Visiting Orthopaedic Surgeon for the Fortis Hospital from 2009 to 2014.

Women Beware



Stay on your guard with regard to any abnormal changes in your breasts. If lumps turn out to be malignant, sooner you begin the treatment, the better for your recovery. Also, you can go for breast reconstruction procedure

BY TEAM DOUBLE HELICAL

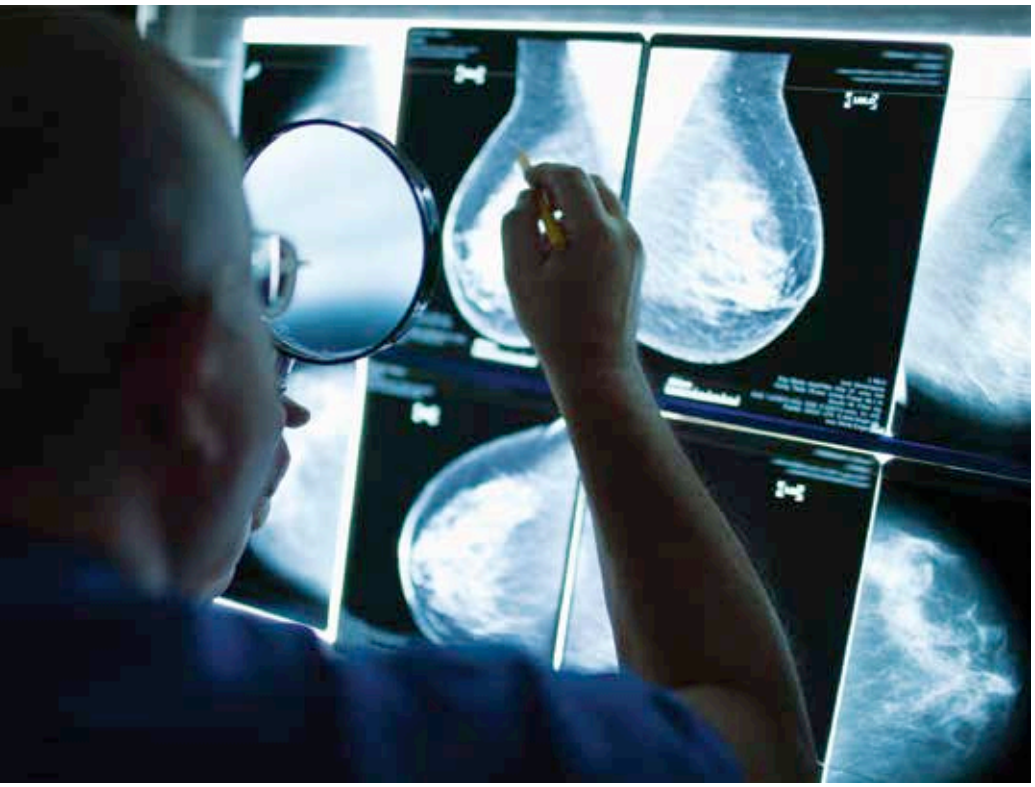
Breast cancer is the most common cancer in women worldwide and in Indian metro cities. Breast cancer is basically a disease of hormonal imbalance, longer and higher the estrogen exposure it increase chances of breast cancer.

Biology of every cancer patient is different and some patients behave very aggressively and even most aggressive form of treatment can not cure them and some very slow growing and even a simple hormonal treatment give them a long life.

Previously in 1950s the treatment was the same for every lady suffering from breast cancer and radical mastectomy and radiotherapy was treatment to every patient.During that time Dr Bernard Fischer undertook many scientific clinical trials and proved many things; the treatment became better and conservation of breast concept came. He proved that if a lady receives chemotherapy in adjuvant setting doing breast conservation surgery does not affect her survival.

Says **Dr Anish Maru, Senior Consultant , Action cancer Hospital, New Delhi,**"In last 50 years, we have understood the biology of breast cancer and molecular markers which can predict the chance of relapse and treatment to be given to an individual patient.Every patient has a particular molecular signature in their genes and this gene profile of patients can be detected on tumor blocks. We can advise the best treatment for individual patient with best survival with least toxicity of drugs."

Adds Dr Maru, "Being aware of how your breasts normally look and feel is an important part of keeping up with your breast health. Finding breast cancer as early as possible gives you a better chance of successful treatment. But knowing what to look for is



not a substitute for regular mammograms and other screening tests, which can help find breast cancer in its early stages, even before any symptoms appear."

A lump or mass in the breast is the most common symptom of breast cancer. Such lumps are often hard and painless, though some may be painful. Not all lumps are cancerous, though. There are a number of benign breast conditions (like cysts) that can also cause lumps. Still, it is important to have your doctor check out any new lump or mass right away. If it does turn out to be cancer, the sooner it's treated the better.

Breast swelling can be caused by inflammatory breast cancer, a particularly aggressive form of the disease. Swelling or lumps around your collarbone or armpits can be caused by breast cancer that has spread to lymph nodes in those areas. The swelling may occur even before you can feel a lump in your breast, so if you have this symptom, be sure to see a doctor.

Skin thickening and redness, breast warmth and itching may be symptoms of mastitis – or inflammatory breast cancer. If antibiotics don't help, see your doctor again.

Breast cancer can sometimes cause changes to how your nipple looks. If your nipple turns inward, or the skin on it thickens or gets red or scaly, get checked by a doctor right away. All of these can be symptoms of breast cancer.

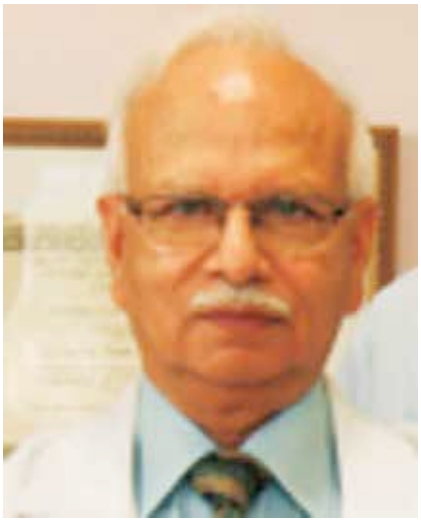
A discharge (other than milk) from the nipple may be alarming, but in most cases it is caused by injury, infection, or a benign tumor. Breast cancer is a possibility, though, especially if the fluid is bloody, so your doctor needs to check it out.

Although most breast cancers do not cause pain in the breast, some do. More often, women have breast pain or discomfort that is related to their menstrual cycle. This type of pain is most common in the week or so before their periods, and often goes away once menstruation begins. Some other benign breast conditions, such as mastitis, may cause a more sudden pain. In these cases the pain is not related to the menstrual cycle. If you have breast pain that is severe or persists and is not related to the menstrual cycle, you should be checked by your doctor. You could have cancer or a benign condition that needs to be treated.

"In the last 50 years, we have understood the biology of breast cancer and molecular markers which can predict the chance of relapse and treatment to be given to an individual patient. Every patient has a particular molecular signature in their genes and this gene profile of patients can be detected on tumor blocks. We can advise the best treatment for individual patient with best survival with least toxicity of drugs."

Dr Anish Maru, Senior Consultant , Action cancer Hospital, New Delhi

Breast reconstruction is surgery to make a new breast shape after removal of the breast or removal of some breast tissue.The main ways of making a new breast shape include removing the whole breast and the skin and then putting in an implant to gradually stretch the remaining skin and muscle, removing just the breast tissue, but leaving the



> "We remove all of the breast tissue (and in most cases, but not all, the nipple and areola are also removed). As with many other surgeries, patients with significant medical comorbidities likehigh blood pressure, obesity, diabetes and smokers are higher-risk candidates. Surgeons may choose to perform delayed reconstruction to decrease this risk. There is little evidence available from randomised studies to favour immediate or delayed reconstruction."
>
> **Dr Dinesh Bhargava,**
> Senior, Aesthetics Plastic Surgeon

skin, and putting in an implant, reconstruction with your own living tissue taken from another part of your body, and combination of your own tissue and an implant

There are two types of options for breast reconstruction. One is Breast Implant and other is Tissue Flaps. Reconstruction with implants are plastic sacs filled with silicone (a type of liquid plastic) or saline (salt water). The sacs are placed under your skin behind your chest muscle. It is important that you discuss these options with your physician who knows your situation and needs. Tissue flap surgeries use muscle, fat, skin, and blood vessels moved from another part of the body to the chest area to rebuild the breast.

Says **Dr Dinesh Bhargava, Senior, Aesthetics Plastic Surgeon,** "We remove all of the breast tissue (and in most cases, but not all, the nipple and areola are also removed). As with many other surgeries, patients with significant medical comorbidities likehigh blood pressure, obesity, diabetes and smokers are higher-risk candidates. Surgeons may choose to perform delayed reconstruction to decrease this risk. There is little evidence available from randomised studies to favour immediate or delayed reconstruction."

The infection rate may be higher with primary reconstruction (done at the same time as mastectomy), but there are psychologic and financial benefits to having a single primary reconstruction. Patients expected to receive radiation therapy as part of their adjuvant treatment are also commonly considered for delayed autologous reconstruction due to significantly higher complication rates with tissue expander-implant techniques in those patients. Waiting for six months to a year following may decrease the risk of complications, but this risk will always be higher in patients who have received radiation therapy.

The Disease and Safeguards

There is high probability of Zika virus spreading to India as its carrier Aedes mosquito is found widely in India where the conditions are similar to that of the tropical and sub-tropical America

BY DR SUNEELA GARG

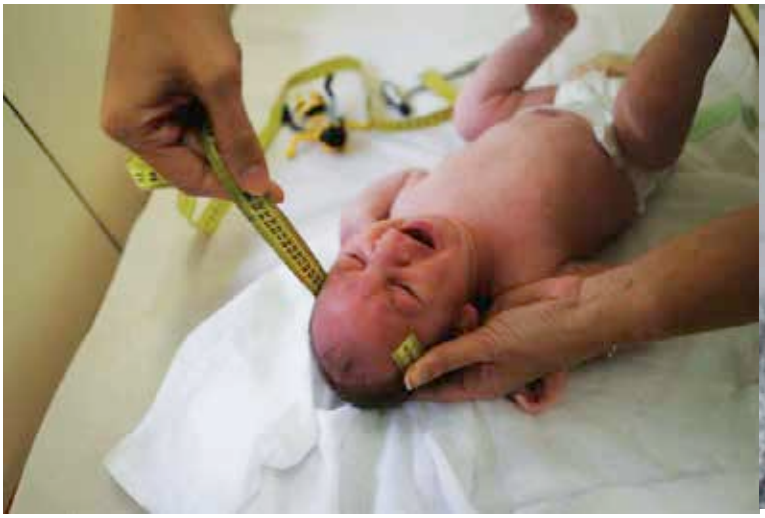
Dr Suneela Garg

Zika virus disease is an emerging viral disease transmitted through the bite of an infected Aedes mosquito. This is the same mosquito that is known to transmit infections like dengue and chikungunya. Zika virus was first identified in Uganda in 1947.

The World Health Organization (WHO) has reported 22 countries and territories in Americasfrom where local transmission of Zika virus has been reported. Microcephaly in the newborn and other neurological syndromes (Guillain Barre Syndrome) have been found temporally associated with Zika virus infection. However, there are a number of genetic and other causes for microcephaly and neurological syndromes like Guillain Barre Syndrome.

Zika virus disease has the potential for further international spread given the wide geographical distribution of the mosquito vector, a lack of immunity among population in newly affected areas and the high volume of international travel. As of now, the disease has not been reported in India. However, the mosquito that transmits Zika virus, namely Aedes aegypti, that also transmits dengue virus, is widely prevalent in India.

A majority of those infected with Zika virus disease either remain asymptomatic (up to 80%) or show mild



symptoms of fever, rash, conjunctivitis, body ache, joint pains. Zika virus infection should be suspected in patients reporting with acute onset of fever, maculo-papular rash and arthralgia, among those individuals who travelled to areas with ongoing transmission during the two weeks preceding the onset of illness.

Based on the available information of previous outbreaks, severe forms of disease requiring hospitalization is uncommon and fatalities are rare. There is no vaccine or drug available to prevent/ treat Zika virus disease at present.

The WHO has declared Zika virus disease to be a Public Health Emergency of International Concern (PHEIC) on 1st February, 2016.

Zika virus disease has been reported so far in the following countries; Brazil, Barbados, Bolivia, Columbia, Dominican Republic, Equador, El Salvador, French Guyana. Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Martinique, Mexico, Panama, Paraguay, Puerto Rico, St Martin, Suriname, Virgin Island and Venezuela. It may be noted that this list is likely to change with time. Hence, updated information should be checked periodically.

In the light of the current disease trend, and its possible association with adverse pregnancy outcomes, the Directorate General of Health Services, Ministry of Health and Family Welfare has issued the following guidelines on the Zika virus disease:

Community based Surveillance

- Integrated Disease Surveillance Programme (IDSP) through its community and hospital-based data gathering mechanism would track clustering of acute febrile illness and seek primary case, if any, among those who travelled to areas with ongoing transmission in the 2 weeks preceding the onset of illness.
- IDSP would also advise its state and district level units to look for clustering of cases of microcephaly among newborns and reporting of Gullian Barre Syndrome.
- The Maternal and Child Health Division (under NHM) would also advise its field units to look for clustering of cases of microcephaly among new-born.

International Airports/ Ports

- All the International Airports/Ports will display billboards/signage providing information to travelers on Zika virus disease and to report to Custom authorities if they are returning from affected countries and suffering from febrile illness.
- The Airport/Port Health Organization (APHO / PHO) would have quarantine/ isolation facility in identified Airports.
- The Directorate General of Civil Aviation, Ministry of Civil Aviation will be asked to instruct all international airlines to follow the recommended aircraft disinsection guidelines
- The APHOs shall circulate guidelines for aircraft disinsection (as per International Health Regulations) to all the international airlines and monitor appropriate vector control measures with the assistance from NVBDCP in airport premises and in the defined perimeter.

Rapid Response Teams

- Rapid Response Teams (RRTs) shall be activated at Central and State surveillance units. Each team would comprise an epidemiologist/public health specialist, microbiologist and a medical/paediatric specialist and other experts (entomologist etc) to travel at short notice to investigate suspected outbreak.
- The National Centre for Disease Control (NCDC), Delhi would be the nodal agency for investigation of outbreak in any part of the country.

Laboratory Diagnosis

- NCDC, Delhi and National Institute of Virology (NIV), Pune have the capacity to provide laboratory diagnosis of Zika virus disease in acute febrile stage. These two institutions would be the apex laboratories to support the outbreak investigation and for confirmation of laboratory diagnosis. Ten additional laboratories would be strengthened by ICMR to expand the scope of laboratory diagnosis.

- RT- PCR test would remain the standard test. As of now, there is no commercially available test for Zika virus disease. Serological tests are not recommended.

Risk Communication

- The states/ UT Administrations would create increased awareness among clinicians including obstetricians, paediatricians and neurologists about Zika virus disease and its possible link with adverse pregnancy outcome (foetal loss, microcephaly etc). There should be enhanced vigilance to take note of travel history to the affected countries in the preceding two weeks.
- The public needs to be reassured that there is no cause for undue concern. The Central/state Government shall take all necessary steps to address the challenge of this infection working closely with technical institutions, professionals and global health partners.

Vector Control

- There would be enhanced integrated vector management. The measures undertaken for control of dengue/ dengue hemorrhagic fever will be further augmented. The guidelines for the integrated vector control will stress on vector surveillance (both for adult and larvae), vector management through environmental modification/ manipulation; personal protection, biological and chemical control at household, community and institutional levels.
- States where dengue transmission is going on currently due to conducive weather conditions (Kerala, Tamil Nadu etc) should ensure extra vigil.

Travel Advisory

- Non-essential travel to the affected countries to be deferred/ cancelled.
- Pregnant women or women who are trying to become pregnant should defer/cancel their travel to the affected areas.
- All travelers to the affected countries/ areas should strictly follow individual protective measures, especially during day time, to prevent mosquito bites (use of mosquito repellant cream, electronic mosquito repellants, use of bed nets, and dress that appropriately covers most of the body parts).
- Persons with co-morbid conditions (diabetes, hypertension, chronic respiratory illness, immune disorders etc) should seek advice from the nearest health facility, prior to travel to an affected country.
- Travelers having febrile illness within two weeks of return from an affected country should report to the nearest health facility.
- Pregnant women who have travelled to areas with Zika virus transmission should mention about their travel during ante-natal visits in order to be assessed and monitored appropriately.

Non-Governmental Organizations

- Ministry of Health & FW/State Health Departments would work closely with Non-Governmental organizations such as Indian/State Medical Associations, Professional bodies etc to sensitize clinicians both in Government and private sector about Zika virus disease.

Co-ordination with International Agencies

- National Centre for Disease Control, Delhi, the Focal Point for International Health Regulations (IHR), would seek/ share information with the IHR focal points of the affected countries and be in constant touch with World Health Organization for updates on the evolving epidemic.

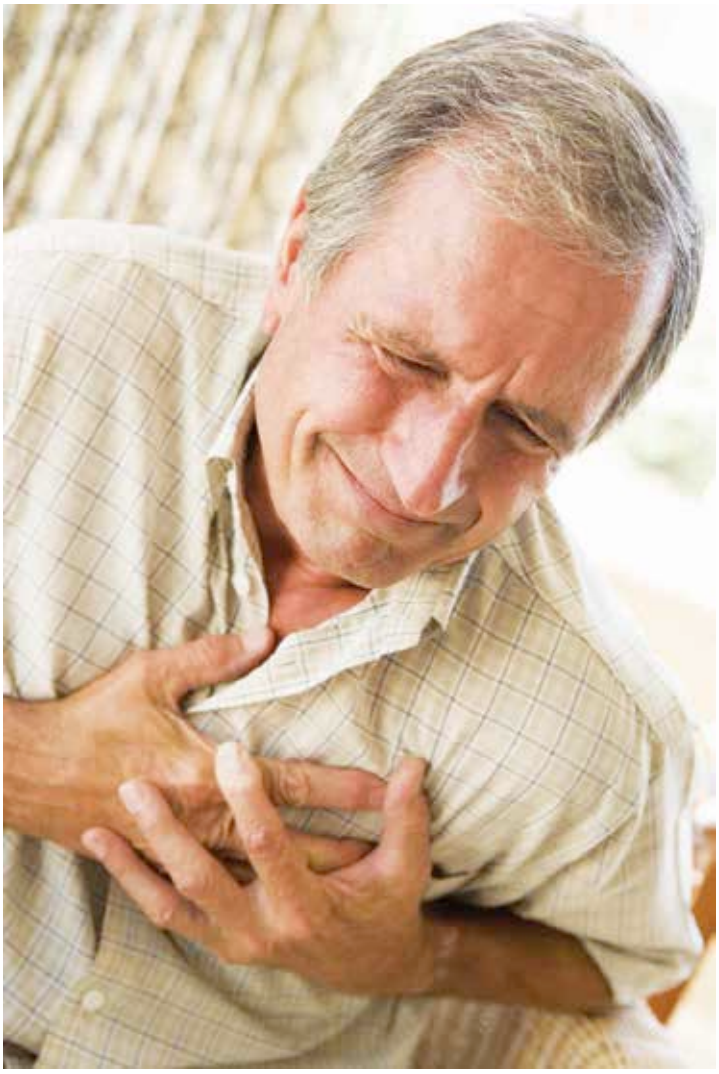
Research

- Indian Council of Medical Research would identify the research priorities and take appropriate action.

Monitoring

- The situation would be monitored by the Joint Monitoring group under Director General of Health Services on regular basis. The guidelines will be updated from time to time as the emerging situation demands.

(The author is Professor & Sub Dean at Maulana Azad Medical College, New Delhi)



Seize the Golden Hour

The moment you experience signs of heart attack, it is vital to reach the hospital as soon as possible as heart muscles may die within a few minutes

BY DR D.S. GAMBHIR

Dr D.S. Gambhir

A heart attack happens when the flow of oxygen-rich blood to a section of heart muscle suddenly becomes blocked and the heart can't get oxygen. If blood flow is not restored quickly, the section of heart muscle begins to die.

Many patients die due to heart attack suddenly, as they are unable to reach the appropriate hospital in time. During heart attack, the heart muscles die within a few minutes of heart attack due to lack of blood supply. This happens when a blood blocks the flow of blood through the coronary artery.

A heart attack occurs when a narrowing in the arteries and /or a sudden blockage from a blood clot cuts off the nutrients and oxygen supply to the heart muscle. The golden hour is a critical time because the heart muscle starts to die within 80-90 minutes after it stops getting blood, and within six hours, almost all the affected parts of the heart could be irreversibly damaged. So, the faster normal blood flow is re-established, the lesser would be the damage to the heart.

During heart attack you must act immediately like recognize symptoms, call for help or emergency and reach hospital promptly .The patient may be given medicine as doctors' advice to keep blood thin and flowing. The aim of treatment is to restore blood flow and save heart tissue.

Many times, a person may not realize

that he or she is having a heart attack, and quite a few who harbour doubts to that affect, spend a considerable length of time in self-denial. By and large, the warning signs are chest discomfort, discomfort in the arm, neck, or jaw, shortness of breath and nausea or light headedness.

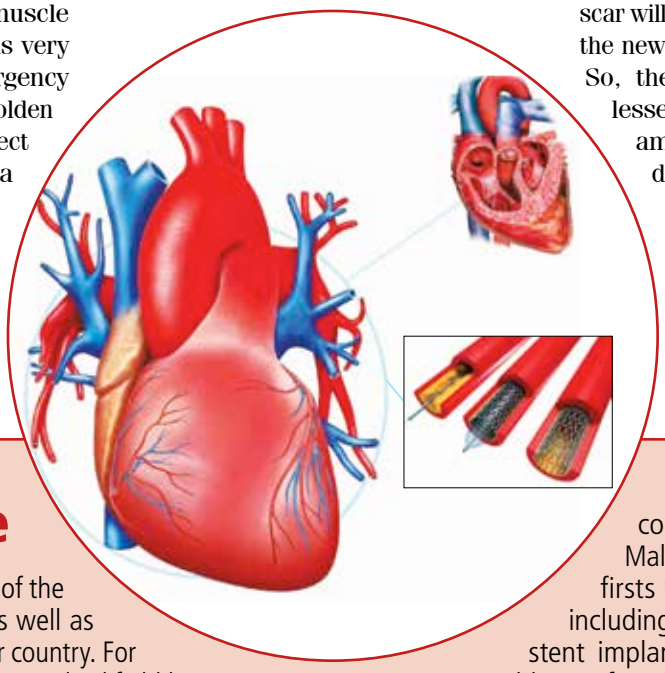
If you think you have one or more of these symptoms, you need to call the emergency services of a nearby hospital, or get somebody to drive you to the hospital. Do not venture to drive yourself to hospital. Always seek help. Depending on intensity of heart attack, surgical treatment like angioplasty, bypass can be performed. The goal of treatment for heart attack is to relive pain, preserve the heart muscle function and prevent death. It is very important to get an emergency department quickly, within the golden hour, if one has reason to suspect that any one is experiencing a heart attack.

To reduce the damage to the heart, it is important to get to the hospital as soon as possible. Other than the consequences of a damaged heart muscle, the most common killer in the early period following a heart attack is an abnormal heart rhythm called ventricular tachycardia and ventricular fibrillation where the heart muscles contract at a rapid rate, but no effective pumping of blood from the heart takes place.

Many times, a person may not realize that he or she is having a heart attack, and quite a few who harbour doubts to that affect, spend a considerable length of time in self-denial. By and large, the warning signs are chest discomfort, discomfort in the arm, neck, or jaw, shortness of breath and nausea or light headedness

Once the person reaches a medical facility (ambulance or hospital), they are immediately put on an ECG monitor to assess the heart rhythm, so they can be given prompt treatment in case of an abnormal rhythm.

Healing of the heart muscle begins soon after a heart attack and takes about eight weeks. Just like a skin wound, the heart's wound heals and a scar will form in the damaged area. But, the new scar tissue does not contract. So, the heart's pumping ability is lessened after a heart attack. The amount of lost pumping ability depends on the size and location of the scar.



(The author is Group Director, Cardiology, Kailash Health Care Ltd and Director, Kailash Hospital & Heart Institute, Noida)

India's Pride

Prof. (Dr) D.S. Gambhir is one of the icons in the field of clinical as well as interventional cardiology in our country. For outstanding contribution in the medical field,he has recently been honoured with Padma Shri award. He is a graduate and post-graduate (MD) from Maulana Azad Medical College, University of Delhi. After obtaining his doctorate degree (DM), he joined the Department of Cardiology, G.B. Pant Hospital, New Delhi as Asstt. Professor in 1985 and then rose to the position of Professor at the age of 44 years. Presently, he is working as the Group Director of Cardiology, Kailash Group of Hospitals, New Delhi & Noida.

Prof. Gambhir is one of the pioneers in the field of interventional cardiology, having performed more than 12,000 coronary interventions. He has trained a large number of doctors in the field of interventional cardiology by performing live demonstrations in several teaching courses in India, Singapore, Malaysia and USA. He has many firsts to his credit in our country, including coronary interventions by stent implantation, atherectomies and rotablation for removal of obstruction from the arteries. He has successfully performed the largest number of interventions for the main coronary artery – one of the most important challenges in the field of nonsurgical treatment of coronary artery disease, thus obviating the need for bypass surgery in hundreds of patients.

By his innovative skills and research-oriented mind, Dr. Gambhir was the first Indian Cardiologist to develop a drug-coated stent in 2002, in collaboration with a group of clinical scientists from India. Presentation of clinical data on this new indigenous drug-coated stent, in one of the world's largest meetings of interventional cardiologists in Paris, not only won him great appreciation but also brought laurels to India, which earned the reputation of second country in the world after USA to develop this device.

Needed Paradigm Shift

What is the remedy for all that ails the healthcare system? A few suggestions are timely and should be considered

BY DR VINAY AGGARWAL

The Indian healthcare system has undergone massive changes since independence. With increasing skills and right approach to provide quality healthcare, a large number of private hospitals and research institutions are contributing in fulfilling the dream of our Prime Minister Narendra Modi's Make in India movement.

As a doctor we have plenty of opportunities to view and experience all that changes that had occurred, not only through the eyes of a medical practitioner but also through the eye of an experienced healthcare executive, who felt and saw the tremendous accomplishments that have been made.

The Metro commuter rail system, the eight-lane divided highway from the airport to the city of New Delhi, the construction of numerous flyovers to facilitate traffic, the evolution of high-rise buildings, call centres and the emergence of Gurgaon and Noida as an extension of the capital, and the presence of technology centres in Bengaluru – are all the signs of a robust and thriving economy.

What is striking is the frenzy with which hospitals are being built, ostensibly to meet the demands of an expanding middle class population that now can afford the best in healthcare.

Every other day, a new healthcare venture is announced, either in partnership with a foreign company or by an all Indian business house.

But behind all this glitter there are some ominous signs of the ills that pervade the health care system. A coherent and sustainable plan that addresses the healthcare needs of the masses is strikingly absent. There are no national standards by which physicians, nurses, pharmacists and hospitals are trained.

Financial incentives between specialists and hospitals from referring doctors govern the way a substantial proportion of patients are treated. Guidelines and protocols for the management of disease, including the length of stay, are virtually non-existent and the ability of hospitals to determine the appropriateness of medical and surgical therapy seems years away.

Quality management remains an elusive dream; it is not sufficient to know the mortality rate of a surgical operation; one must know if the care was timely and appropriate. Judging from the incredible advances that have been made in information technology in India, it is noteworthy that these advances have not been applied on a large scale to healthcare.

The lack of an Electronic Health Record (EHR) prevents the development of transparency throughout the healthcare system. And compounding all this is the widespread use of spurious drugs that interfere with proper treatment. Above all, there is not enough historical evidence of what it costs for the treatment of a particular condition for insurers to adequately set their premiums.

To improve and bring transparency in quality health practice there must be development and implementation national standards for examination by which doctors, nurses and pharmacists are able to practice and get employment. There must be focus on rapidly develop and implement national accreditation of hospitals; those that do not comply would not get paid by insurance companies.

A performance incentive plan that targets specific treatment parameters would be a useful adjunct. The running hospital must obtain proposals from private insurance companies and the government on ways to provide medical insurance coverage to the population at large and execute the strategy. It is healthy to have competition in healthcare, and provide health insurance to the millions who

Dr. Vinay Aggarwal recently awarded "Vishisht Sewa Ratan Award"by Shri Rajnath Singh, Hon'ble Minsiter of Home, Govt. of India

cannot afford it.

There should be utilize and apply medical information systems that encourage the use of evidence-based medicine, guidelines and protocols as well as electronic prescribing in inpatient and outpatient settings. This is possible though the implementation of the EHR; this will, in time, encourage healthcare data collection, transparency, quality management, patient safety, efficiency, efficacy and appropriateness of care. The management of hospitals ensure perverse incentives between specialists, hospitals, imaging and diagnostic centres on the one hand and referring physicians on the other need be removed and a level of clarity needs to be introduced.

There should be development of multi-specialty group practices that have their incentives aligned with those of hospitals and payers. It is much easier to teach the techniques of sophisticated medical care to a group of employed physicians than it is to physicians as a whole. It is also important that doctors are paid adequately for what they do.

The government should encourage business schools to develop executive training programmes in healthcare, which will effectively reduce the talent gap for leadership in this area. There must be focus on revision of the curriculum in medical, nursing, pharmacy and other schools that train healthcare professionals, so that they too are trained in the new paradigm. And develop partnerships between the public and private sectors that design newer ways to deliver healthcare. An example of this would include outpatient radiology and diagnostic testing centres.

The government should appoint a commission which makes recommendations for the healthcare system and monitors its performance. The present system (and its escalating costs) is not sustainable due to its inefficiency and a lack of aligned incentives for improving performance.

The government should appoint a commission which makes recommendations for the healthcare system and monitors its performance. The present system (and its escalating costs) is not sustainable due to its inefficiency and a lack of aligned incentives for improving performance. A country that has leapfrogged from rotary phones to a ubiquitous presence of mobile phones must make a similar change in healthcare.

It will not be easy and it will not be inexpensive. But it has been done in other parts of the world before and it can be done here too. The potential to create the best healthcare system in the world exists. It is time to commence the debate, develop a plan and execute it..

(The author is founder chairman Max Superspeciality Hospital, Vaishali and Former President, Indian Medical Association, New Delhi)

Children of the Lesser God

The pain of millions of anonymous rag pickers who keep our city clean by picking our daily garbagesimply goes unrecognized. So, it's time now to make conscientious efforts for their overall welfare and improvement

BY KANIKA JOSHI

A study was recently conducted in the three locations of South Delhi region of the capital city of New Delhi on waste pickers' mental and physical health.It has been found that children who work as waste pickers are more likely to fall mentally ill.

The total population of Delhi as per the provisional figures is 16,753,235 comprising 8,976,410 males and 7,776,825 females (Census 2011). Delhi comprises nine districts;one of them is south Delhi. The total population of south Delhi is 2,733,752.South Delhi is a blend of both ancient and New Delhi.

South Delhi region ranges from congested by-lanes of villages like Munirka to swanky localities like Hauz Khas, Vasant Vihar, Greater Kailash, C. R. Park, Panchsheel Enclave, South Extension, Defence Colony, Friends Colony, Green Park, etc. Delhi made its inroads by expanding to every potential location within the periphery of Delhi and South Delhi is the outcome of this very fact.

Overview

Waste picking is largely an urban, informal occupational structure which consists of men, women and children. Poorest of the poor, illiterate and unskilled migrants,

who are usually socially excluded due to the low caste hierarchy, are involved in this sector. Accounting of this sector's networks and total number of employees are not available because of it not only forming a part of the informal sector, but a large percentage of this sector's employees are migrants.

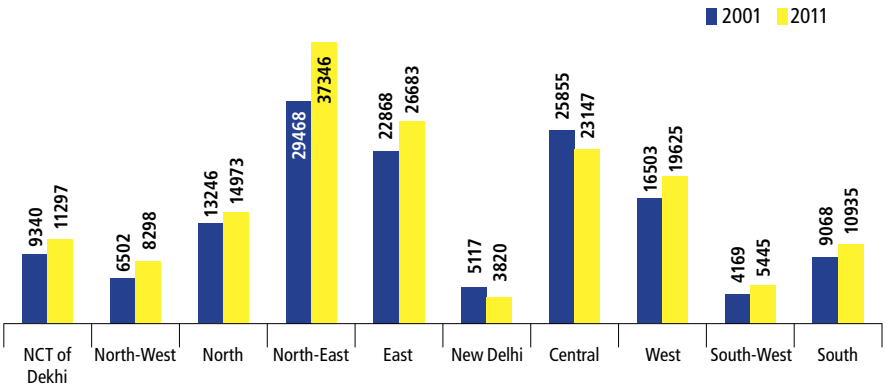
In Delhi, there are approximately more than one lakh waste pickers who help segregate the waste and keep our city clean by recycling 30% of garbage(Chintan Environmental Research and Action Group, 2015).In Delhi, waste pickers are the ones who pick wastes from the streets, bins, open landfills and drains and carry this waste either manually or on cycle to collect and segregate specific items like plastic, glass bottles, etc. The fact that they belong to the most deprived sections of the urban population, they suffer from such conditions as under-nutrition, growth retardation, anemia, tuberculosis and other bacterial and parasitic diseases, to name a few.

According to a study conducted by the National Labour Institute, waste picking is the fourth largest occupation of the street children in Delhi. There are 60,000 children in Delhi alone who help in cleaning, segregating and selling recyclable waste. In 2001, waste picking was included among the hazardous occupations prohibited under the Child Labour Act, 1986. The nature of work involves direct contact with the toxic waste leading to many health issues and some of them get addicted to glue and other drugs.

In India, there is no national database providing comprehensive information on the magnitude and the nature of these adverse health and environmental consequences associated with poor solid waste management.

The largest category for urban employment is non-trader service, including the occupation of waste picking which makes a substantial contribution to solid waste management and environmental sustainability. Data on waste pickers comes from The Alliance of India waste pickers, which

District wise Density of Population in Delhi 2001 & 2011



Source: Population Census 2001, Dte. of Census Operations, Delhi

defines waste pickers as 'self-employed workers in the informal economy who earn their livelihood from the collection and sale of recyclable scrap from urban solid waste for recycling.

They collect discarded materials that have zero value and convert them into tradable commodities through their labour in extracting and collection, sorting, grading and transporting'. It saves nearly a million tons of Carbon Dioxide equivalents in Delhi and manages 59% of the waste in certain pockets. In India, there are at least 15 lakh waste pickers and buyers who are informally employed. Health hazards in waste pickers stem from two aspects, viz. poverty and their occupation.

Health Risks

The problem is acute because waste pickers are not protected by occupational health and safety. The most common health impairments found in this community are injuries due to cuts and bruises, from medical waste/chemical waste and those caused by animals. The hazardous working conditions lead to bruises from sharp glass or broken bottle.

> Waste picking is largely an urban, informal occupational structure which consists of men, women and children. Poorest of the poor, illiterate and unskilled migrants, who are usually socially excluded due to the low caste hierarchy, are involved in this sector.

Similarly, 27% of the waste pickers who collect medical waste sustain injuries from syringes, sharps and broken bottles and there is a high occurrence of the waste pickers being bitten by rodents, snakes, dog's bites and stings as well. There are various airborne diseases common to waste pickers due to exposure to dust in landfills, exposure to toxic waste, waste reactions and open dumping grounds. It causes infections, allergies, respiratory diseases and chemical poisoning. Other diseases like tuberculosis, scabies, asthma, ulcers and stomach problems are also commonly reported.

Infections and Infestations spread from coming into contact with garbage which contains animal and human excreta, sputum dead animals and potentially infectious hospital waste dumped in refuse dumps. Infection of the skin, respiratory tract and gastro intestinal tract are reported to be more common among waste pickers than others from the same socio-economic group.

Chemical poisoning, including

pesticide poisoning because of coming into contact with empty containers of chemicals or using these as containers for food or water, or burning such containers as a source of warmth in winter have been reported. Several anecdotal pesticide poisoning cases have been documented in children who have used discarded pesticide tins as a glass for drinking water; lead poisoning in families where discarded lead acid battery containers were used as fuel have been documented.

Dog bites as well as stings of snakes and other vermin, insects are common. Besides, injuries, cuts and bruises on hands and feet by sharp objects in the refuse occur quite frequently. If these injuries are not treated, they can lead to non-healing ulcers. Of all these problems, the infections and infestation are probably the most important and widely prevalent health problems.

Measures

Despite this acknowledgment by the government, the situation continues to be the way it is. The most important solution to the problem of health hazards of waste pickers is to ensure that all recyclable material is segregated at source and collected separately. The waste pickers can assist the population by collecting all waste properly segregated into two bags/containers, deposit the organic waste in collection site and sell the recyclable waste.

Attempts can also be made to ensure that these children wear some affordable protective gear such as plastic gloves and covered foot wears. Improved waste collection and disposal practices in areas will substantially reduce health hazards caused to waste pickers.

> The most common health impairments found in this community are injuries due to cuts and bruises, from medical waste/chemical waste and those caused by animals. The hazardous working conditions lead to bruises from sharp glass or broken bottle. Also,there is a high occurrence of the waste pickers being bitten by rodents, snakes, dog's bites and stings as well.

(The author is Master's in Sustainable Development Practice, Department of Policy Studies, TERI University)

BLESSING FOR THE ELDERLY

Old age is accompanied by the increasing threat of heart attack. But this can now be considerably minimized with a device called Rotablator

BY DR. PURSHOTAM LAL

Aging is considered a major risk factor for coronary artery disease which cannot be modified unlike other risk factors such as hypertension, diabetes, smoking etc. The depressing part is that majority of the elderly patients, suffering from coronary artery disease after the age of 80, are having calcified coronary artery blocks.

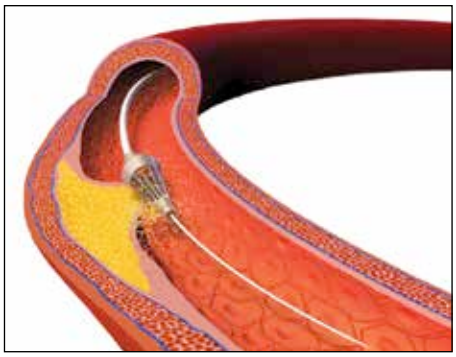
It is owing to the intractable angina which becomes unresponsive to medical treatment that the disease pattern starts imposing functional limitations in several patients thus affecting their quality of lives. Many such patients have already undergone bypass surgery; however those suffering from other body ailments such as bad lungs are even unfit for

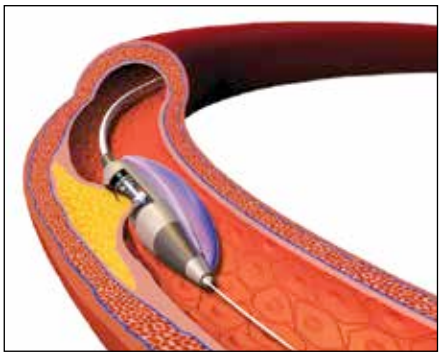
the surgery.

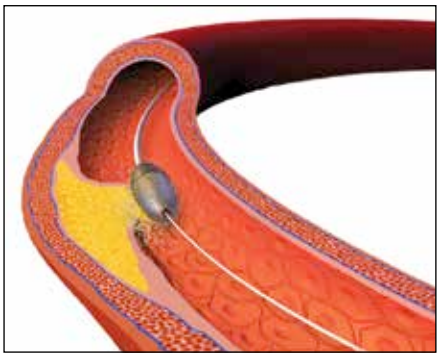
Rotablator – A boon!

It is seen quite often that balloon angioplasty and stenting are not possible due to the excess of calcium and under such conditions the patients are left with no other option but to keep on suffering from angina or heart attack. Then it is for such peoplethat the Rotablator often called as diamond drilling proves to be no less than a blessing. This device consists of a burr that is embedded with millions of diamond crystals. The burr rotates at a speed of 150,000 to 200,000 revolutions per minute and cuts the calcium just like diamond cuts the glass. Once the calcium is removed the stenting is performed with excellent results.

The Rotablator was introduced for the first time in India by me. I performed the first procedure on a patient called Surinder Jindal from Punjab while he was at Apollo, Chennai.







An authentic scientific paper pertaining to the use of this machine was presented by Dr. Lal at the Annual Conference of Cardiological Society of India held at Hyderabad in December 1991. Later on, the paper got published in Indian Heart Journal.

Approximately 10-12% of our total patients are almost 80 years of age out of which more than 50% require diamond drilling. Even though the number of cases of elderly patients requiring diamond drilling is very high, but the case of 88-year-old Mehbood Singh Kohli,was very challenging. He underwent diamond drilling with stenting of the main artery for multiple calcified blocks on January 07, 2016. The diamond drilling did wonder and the patient's life got saved. "Dr. Lal treats the elderly patient like flower and we have great faith in Dr. Lal. We are very happy that he saved the life of our father", said A.S. Kohli, his son.

> "Then it is for such people that the Rotablator often called as diamond drilling proves to be no less than a blessing. This device consists of a burr that is embedded with millions of diamond crystals"

This surgery was followed by another major heart surgery of the patient called Tejinder Singh. He had critical calcified blocks of the Left Main and both of the other arteries, which was a life threatening emergency. Since the patient was unfit for bypass and balloon angioplasty with stenting, the diamond drilling followed by stenting was done on January 08, 2016 and Tejinder Singh went home after a few days happily.

"I know about Metro Hospital for long time. I appreciate Dr. P.Lal for his successful treatment and his care given to me," Tejinder Singh said. The 88-year-old, Harbhajan Singh Chhabra, who earlier had bypass surgery and was unable to walk underwent diamond drilling of the Left Main artery and another major artery circumflex successfully on January 09, 2016. And, just after three days he could go back to his home.

Harjeet Kaur Chhabra, wife of the patient, said, "Dr. Lal explained us everything very nicely and we are grateful to him for opening the critical calcified blocks and saving the life of my husband."

There is no dearth of patients who have received benefits from Rotablator. This technology has not only been able to give a new life to them, but has also made their lives worth living.

(The author is Padma Bhushan, Padma Vibhushan and Dr. B.C. Roy National Awardee and CMD Metro Group of Heart Hospital)

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