

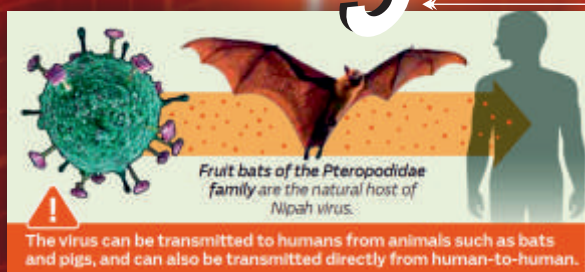
# NHI Dialogue



Quarterly Health Magazine of Cardio Diabetes Research Society

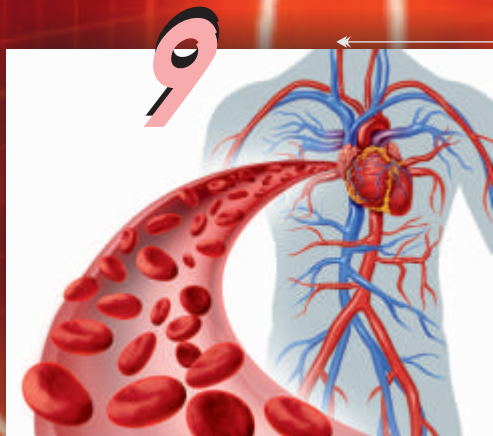
Vol. 2 No. 47 April-June 2018

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## NIPAH VIRUS (NiV)

Dr. Bhawani Singh, MD Medicine; DM Pulmonary Medicine  
Senior Consultant Pulmonologist, National Heart Institute



## एथेरोस्क्लेरोसिस – थोड़ा लिखा ज्यादा समझना

प्रोफेसर (डॉक्टर) श्रीधर द्विवेदी  
वरिष्ठ हृदय रोग विशेषज्ञ, नेशनल हार्ट इंस्टिट्यूट, नई दिल्ली

## WATCH THAT WAISTLINE!

Dr. Anirban Kundu, Consultant Cardiac Surgeon  
Dr. O. P. Yadava, Chief Cardiac Surgeon  
National Heart Institute, New Delhi



## Editorial Voice

Dear friends!

Summer greetings from the NHI Dialogue Team!

Hope you are taking care of yourself.

Summers come n go, but this year we specially wish for you a double dose of health n happiness topped with loads of good fortune. Have a great year ahead!

Thanks a lot for your 'liking' the new getup and content as also for your valuable suggestions.

The last data of January 2018 revealed a circulation of 22,000 print & over 2,00,000 e-magazine quarterly.

Hope you enjoy reading and keep in top fitness!

Please continue to send your valuable comments and suggestions ...

Once again hoping to raise the hope!

Your's

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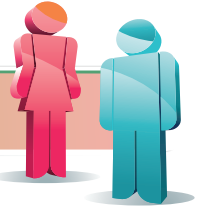
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*Readers are advised to first  
consult their doctor before  
starting any therapy.*

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and  
National Heart Institute  
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# DIABETES MELLITUS PREVENT, TREAT AND BEAT

Ms. Simarjeet, Sr. Nutritionist

## P R E V E N T

- Metabolic disorder characterized by high blood glucose levels due to decreased ability or incomplete inability if the tissues to utilize carbohydrates.
- The disorder is due to the deficiency or diminished effectiveness of the hormone insulin, produced by the beta- cells of the islets of langerhans of pancreas.

## DIABETES

- HbA1C  $\geq$  6.5% or,
- Fasting plasma glucose  $\geq$  126mg/dl or
- 2 hr plasma glucose  $\geq$  200mg/dl during an OGTT or,
- Random plasma glucose  $\geq$  200mg/dl.

## NORMAL

- Fasting plasma glucose  $<$  100mg/dl
- 2 hour plasma glucose  $<$  140 mg/dl



## TREAT

- Maintain ideal body weight.
- Maintain normal blood sugar levels.
- Minimize the onset of chronic degenerative complications.
- Life style modifications in terms of healthy food choices and physical activity.
- The amount and time of food intake should be controlled and well managed.
- Avoid fasting and feasting.
- Choose oils rich in MUFA and PUFA.

## BEAT

- Choose complex carbohydrates rather than simple sugars.
- Soluble fibers present in oats, barley, fruits and legumes lower the fasting blood sugar.
- Preparations like roasted chana, chapattis, sprouted dals and whole fruits are more suitable than boiled rice, khichri, washed dals and fruit juices.



## LOW GLYCEMIC INDEX FOOD

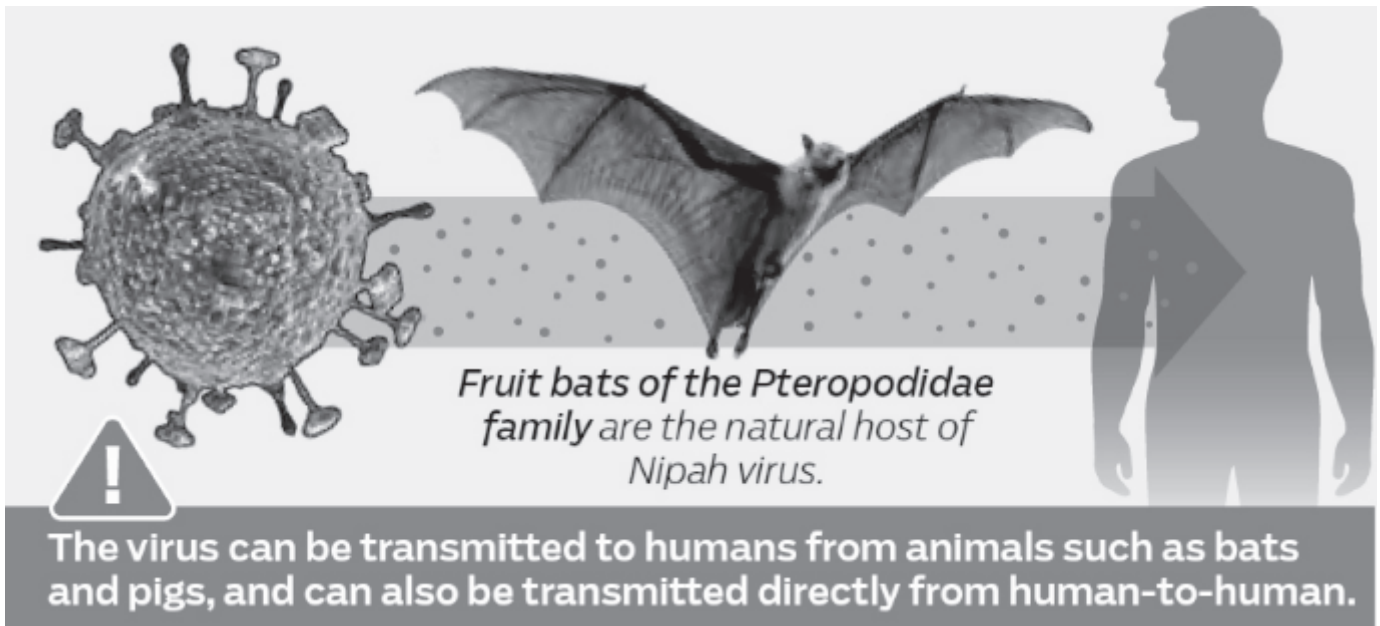
- Apple, Orange, Jamun
- Lentils
- Oats
- Green leafy vegetables
- Whole grains
- Nuts



Adopt an active lifestyle

# NIPAH VIRUS (NiV)

Dr. Bhawani Singh, MD Medicine; DM Pulmonary Medicine  
Senior Consultant Pulmonologist, National Heart Institute



A small hospital in Siliguri, West Bengal became a subject of great concern for the population of this sparsely populated town in late January 2001 and invited attention of national and international health authorities. Several cases of acute encephalitis were noticed that had epidemiological link to this hospital. Those afflicted were either members of hospital staff or had visited patients admitted there. Of the total 61 adult cases 45 died showing a mortality rate of 74%. The aetiology remained unknown till the CDC Atlanta identified it as NiV. The fear of this virus in Siliguri even after 17 years was reported in the Economic Times as “India's first Nipah virus victim town Siliguri under panic after Kerala outbreak.”

## EPIDEMIOLOGY

The virus derives its name from a village in Malaysia called Sungai Nipah from where the first cases of encephalitis were identified in 1999. This is an enveloped negative strand RNA virus that along with Hendra virus comprises a special genus designated Henipavirus in the subfamily Paramyxovirinae. The Malaysian outbreak occurred amongst pig farmers and resulted in 300 cases of who 100 perished. One million pigs were slaughtered to contain the epidemic

which has since not recurred. However limited outbreaks of Nipah virus occurs on an annual basis in Bangladesh since 2001. Siliguri (2001) and Nadia (2007) were the only two districts in West Bengal that border Bangladesh from where similar outbreaks were reported before the present outbreak in Kerala.

Epidemiological studies have firmly established NiV as a zoonotic infection. Fruit bats of the genus Pteropus have been identified as a natural reservoir of NiV. In India the virus has been demonstrated in *P giganteus*. Bat saliva, urine, semen and excreta contain virus even though the bats are symptomless carriers. In the Malaysian context exposed pigs acted as amplifying chambers for the infection prior to afflicting farm workers. Culling was hence very successful. Human to human transmission was doubtful. In Bangladesh and India ingestion of contaminated fresh date palm sap or fruits are primarily responsible. Human to human transmission is also on record from both countries as exemplified by Siliguri. These epidemiological and other clinical differences listed below between cases seen in Malaysia on one hand and Bangladesh, India on the other hand is attributed to differences in strain of the virus.

## CLINICAL FEATURES

The incubation period is usually between 4 to 18 days. Usual cases present with fever, headache, vomiting's, rigor followed by altered sensorium in about half of those infected. Initially it can be confused with influenza, meningitis and malaria, which are also seen in these geographical areas. Brainstem dysfunction

and myoclonus is observed in a significant proportion of those with altered sensorium in Malaysia. Late onset and recurrent encephalitis compound the situation for the clinician. The exact reasons for these phenomenon's are still unknown. The salient clinical features and the differences in the presentation as reported in Malaysia and Bangladesh and India are summarized in the Table below.

FEATURE	MALAYSIA / SINGAPORE	BANGLADESH / INDIA
AGE & OCCUPATION	ADULTS / PIG FARM WORKERS	ADULTS / CHILDREN/ HEALTH CARE WORKERS
SPREAD	BATS to PIGS PIGS to HUMAN HUMAN to HUMAN rare	BATS to HUMAN HUMAN to HUMAN BATS to COW / PIGS??
RESPIRATORY MANIFESTATIONS	14 to 29 %	COUGH 62% DYSPNOEA 69% CXR ARDS Like FEW
ENCEPHALITIS	SEGMENTAL MYOCLONUS 32 – 54 %	NOT REPORTED
RELAPSED OR LATE ENCEPHALITIS	10%	4/ 22 IN A FOLLOW UP STUDY
MORTALITY	32 – 41%	73 %

Derived from ChangLY, Tan CT. Nipah Virus Infection. Jackson AC Ed: Viral Infections of the Nervous System. Springer Basel 2013 317 – 336.

## RADIOLOGY

MRI imaging is helpful to the extent that changes reported in NiV are different from those seen in Japanese B Encephalitis and that caused by Herpes.

## LABORATORY DIAGNOSIS

NiV is classified as a biosecurity level (BSL) 4 agent. Therefore isolation and culture requires a sophisticated laboratory. CDC Delhi and NVL Pune meet these benchmarks. Inactivated virus can be handled in BSL 2 level laboratories. The virus has been cultured from CSF, Nasal and Throat secretions, Urine and Blood in the acute state. The same samples can be used for RT-PCR testing which is most useful in the clinical context as the results are available rapidly. Antibodies testing using ELISA or Serum neutralizing test are useful in late cases or on follow up. In fatal cases immunohistochemistry performed on autopsy specimen can confirm the diagnosis.

## TREATMENT & PREVENTION

Ribavirin in clinical trials has not lived up to it's initial promise therefore of uncertain value. There are yet no effective passive antibodies available that target the virus. The most important measures to be adopted are

those of infection control, which in India should also include airborne infection control measures besides standard measures. The treatment essentially is supportive and may require mechanical ventilator support. There are no effective vaccines available. Exposures to infected pigs, avoiding contaminated food items are important preventive steps.

NiV is a zoonotic infection, which illustrates how environmental degradation caused mostly by human activity in this case, limits an animal's natural habitat and presents unexpected and novel challenge to mankind in return.





# Obesity

Dr. Adarsh Kumar, Sr. Consultant Internal Medicine, NHI

## What is Obesity?

**O**besity is an epidemic like diabetes. This condition puts people at a higher risk for serious diseases, such as type 2 diabetes, heart disease, and cancer. According to the Centers for Disease Control and Prevention (CDC), it is estimated that more than one-third of adults ([34.9 percent](#)) and [17 percent \(12.7 million\)](#) of children and teens are clinically obese.

Obesity is defined as having a body mass index (BMI) of 30 or more. BMI is a calculation that takes a person's weight and height into account. However, BMI does have some limitations. According to the [CDC](#), "Factors such as age, sex, ethnicity, and muscle mass can influence the relationship between BMI and body fat. Also, BMI does not distinguish between excess fat, muscle, or bone mass, nor does it provide any indication of the distribution of fat among individuals." Despite these limitations, BMI continues to be widely used as an indicator of excess weight.



## What Causes Obesity?

Eating more calories than you burn in daily activity and exercise (on a long-term basis) causes obesity. Over time, these extra calories add up, and cause you to gain weight.

**Common specific causes of obesity include:**

- Eating a poor diet of foods high in fats and calories.
- Having a sedentary (inactive) lifestyle.
- Not sleeping enough, which can lead to hormonal changes that make you feel more hungry and crave certain high-calorie foods.
- Genetics, which can affect how your body processes food into energy and how fat is stored.

- Growing older, which can lead to less muscle mass and a slower metabolic rate, making it easier to gain weight.
- Pregnancy (weight gained during pregnancy can be difficult to lose and may eventually lead to obesity).

**Certain medical conditions may also lead to weight gain. These include:**

- Polycystic ovary syndrome (PCOS): a condition that causes an imbalance of female reproductive hormones.
- Cushing's syndrome: a condition caused by having an excessive amount of the hormone cortisol in your system.
- Hypothyroidism (underactive thyroid): a condition in which the thyroid gland does not produce enough of certain important hormones.
- Osteoarthritis (and other conditions that cause pain that may lead to inactivity).



## Who is at Risk for Obesity?

A complex mix of genetic, environmental, and psychological factors can increase a person's risk for obesity.

### Genetics:

Some people possess genetic factors that make it difficult for them to lose weight.

### Environment and Community:

Your environment at home, at school, and in your community can all influence how and what you eat and how active you are. Maybe you have not learned to cook healthy meals, or do not think you can afford healthier foods. If your neighborhood is unsafe, maybe you have not found a good place to play, walk, or run.

### **Psychological and Other Factors:**

Depression can sometimes lead to weight gain, as an individual turns to food for emotional comfort.

Quitting smoking is a good thing, but quitting can also lead to weight gain, so it is important to focus on diet and exercise while you are quitting.

Medications such as steroids and certain antidepressants or birth control pills can also put you at greater risk for weight gain.

### **Here are 5 Ways to tell if You're Overweight:**

BMI readings aren't necessarily an accurate measure of whether you're overweight or obese. Here's some other signals you're carrying too many pounds.

The best way to tell if you're at a healthy weight is from your waist size, "A waist circumference greater than 35 inches in women and greater than 40 inches in men could not only determine overweight status but put a hard-and-fast number on one's health," she told Healthline.

"Waist circumference above these numbers indicates excessive belly fat, a dangerous type of fat surrounding vital organs, which increases one's risk of diabetes, high cholesterol, high blood pressure, and the metabolic syndrome."

To measure your waist circumference all you need is a measuring tape.

"Place it on the top of your hip bone, bringing it around your body and level with your belly button," she said.

Resist the temptation to suck in, and don't make the tape too snug. An inaccurate reading only hurts you.

### **Snoring:**

"If your partner, best friend, or even you notice excessive snoring and you wake up restless, it may be a good reason to check your weight," "If you snore frequently and rarely get a good night's sleep, you may suffer from sleep apnea."

Sleep apnea is a condition that causes your breathing to repeatedly stop and start again when you're sleeping. It can cause loss of oxygen and extreme fatigue during waking hours. "When your body stores fat around the neck, it may narrow the airway causing shallow breathing or pauses in breathing."

### **Frequent heartburn:**

Changes in your body weight, even slight ones, can lead to more acid reflux.

More than one-third of overweight and obese individuals experience gastroesophageal reflux disease (GERD).

Other symptoms of this condition include belching, nausea, a bitter taste in your mouth, and abdominal pain.

### **Achy joints:**

Obesity is a risk factor for osteoarthritis, the most common type of arthritis.

Osteoarthritis is a disabling disorder that leads to joint deterioration, pain, decreased joint mobility, and a reduced quality of life.

Carrying around extra weight applies increasing levels of pressure on all of your joints, and as you gain weight, the pressure climbs.

If you have achy knees or hips, or chronic back pain, you may be experiencing signs of a weight problem.

### **Chronic fatigue:**

Excess weight puts additional pressure on your organs, including your lungs.

If simple tasks, such as tying your shoes or cleaning a room, lead to fatigue, shortness of breath, or difficulty breathing, you may have a weight problem.

Likewise, overweight and obese individuals have a greater risk of developing asthma.

People with weight problems may experience chronic inflammation because of the excess weight. This may lead to inflammation in airways and can make breathing more difficult.

### **What Are Complications of Obesity?**

Obesity leads to much more than simple weight gain. Having a high ratio of body fat to muscle puts strain on your bones as well as your internal organs. It also increases inflammation in the body, which is thought to be a cause of cancer. Obesity is also a major cause of type 2 diabetes.

Obesity has been linked to a number of health complications, some of which are life-threatening:

- Type 2 diabetes
- Heart disease
- High blood pressure
- Certain cancers (breast, colon, and endometrial)
- Stroke
- Gallbladder disease
- Fatty liver disease
- High cholesterol
- Sleep apnea and other breathing problems
- Arthritis
- Infertility





India doctor to operate on '500kg' Egyptian woman

### How is Obesity Treated?

If you are obese and have not been able to lose weight on your own, medical help is available. Start with your family physician, they may be able to refer you to a weight specialist in your area. Your doctor may also want to work with you as a team to help you lose weight, along with a dietitian, therapist, and other healthcare staff.

Your doctor will work with you on making lifestyle changes. Sometimes, they may recommend medications or weight loss surgery as well.

### Lifestyle and Behaviour Changes:

Your healthcare team can educate you on better food choices and help develop a healthy eating plan that works for you. A structured exercise program and increased daily activity — up to 300 minutes a week — will help build up your strength, endurance, and metabolism. Counseling or support groups may also identify unhealthy triggers and help you cope with any anxiety, depression, or emotional eating issues.



### Medical Weight Loss:

Your doctor may also prescribe certain prescription weight loss medications in addition to healthy eating and exercise plans. Medications are usually prescribed only if other methods of weight loss have not worked, and if you have a BMI of 27 or more in addition to obesity-related health issues.

Prescription weight loss medications either prevent the absorption of fat or suppress appetite. These drugs can have unpleasant side effects. For example, the drug orlistat (Xenical) can lead to oily and frequent bowel movements, bowel urgency, and gas. Your doctor will monitor you closely while you are taking these medications.

### Weight Loss Surgery:

Weight loss surgery, commonly called bariatric surgery, requires a commitment from patients that they will change their lifestyle. These types of surgery work by limiting how much food you can comfortably eat or by preventing your body from absorbing food and calories. Sometimes they do both.

Weight loss surgery is not a quick fix. It is a major surgery and can have serious risks. After surgery, patients will need to change how they eat and how much they eat or risk getting sick.

Candidates for weight loss surgery will have a BMI of 40 or more, or have a BMI of 35 to 39.9 along with serious obesity-related health problems.

Patients will often have to lose weight prior to undergoing surgery. Additionally, they will normally undergo counseling to ensure that they are both emotionally prepared for this surgery and willing to make the necessary lifestyle changes that it will require.

### Surgical options include:

- Gastric bypass surgery, which creates a small pouch at the top of your stomach that connects directly to your small intestine. Food and liquids go through the pouch and into the intestine, bypassing most of the stomach.
- Laparoscopic adjustable gastric banding (LAGB), which separates your stomach into two pouches using a band.
- Gastric sleeve, which removes part of your stomach.
- Biliopancreatic diversion with duodenal switch, which removes most of your stomach.

### How Can You Prevent Obesity?

Help prevent weight gain by making good lifestyle choices. Aim for moderate exercise (walking, swimming, biking) for 20 to 30 minutes every day.

Eat well by choosing nutritious foods like fruits, vegetables, whole grains, lean protein and drinking green coffee. Eat high-fat, high-calorie foods in moderation.



# Dining out with Diabetes



*The more active the role you play in your health-care decisions, the easier it is to manage your diabetes. For instance, cooking your own meals allows for better blood-sugar control because you know exactly what and how much is in your food. However, it's not always possible to prepare home-cooked meals. And living with diabetes doesn't mean you can't enjoy dining out.*

## Smart Dining tips from CDRS team.

### FOLLOW THESE TIPS FOR SMART DINING

#### PLAN AHEAD

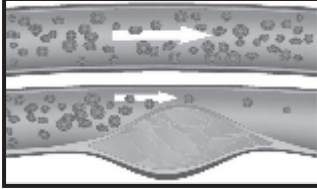
- Choose a restaurant with a large menu of healthy items. Many chains have nutritional information available online.
- Call the restaurant ahead of time and ask whether they can handle special requests.
- Have a small snack before going to a restaurant, when you are dining later than usual, so you aren't too hungry.
- Review your meal plan before going out, so you will know what your carbohydrate allocation is.

#### ORDERING MEALS

- If you aren't sure how a dish is prepared, ask your server.
- Watch your portion sizes. For the main course, order an appetizer and either split an entrée with your companion or eat half of it and take the rest home.
- Ask for substitutions. For example, order vegetables instead of French fries.
- Avoid breaded, fried foods and foods in heavy sauces. Try fish or poultry that's grilled or broiled, without butter.
- Ask for salad dressing and sauces on the side.
- Limit to one serving drinks that contain alcohol.
- Be careful of all-you-can-eat restaurants. When you do eat at a buffet, fill up first on vegetable dishes.

With these tips in mind, you can keep your blood glucose in control and make dining out an enjoyable experience.





# एथेरोस्क्लेरोसिस – थोड़ा लिखा ज्यादा समझना

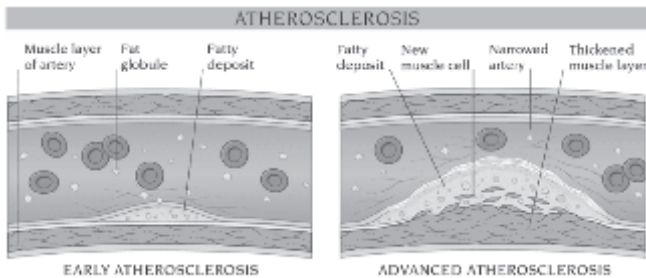
प्रोफेसर (डॉक्टर) श्रीधर द्विवेदी

वरिष्ठ हृदय रोग विशेषज्ञ, नेशनल हार्ट इंस्टिट्यूट, नई दिल्ली

आज से ७० वर्ष पूर्व भारत में जितना भय चेचक, कालरा, प्लेग या तपेदिक जैसी प्राणलेवा बीमारियों का था आज उससे कहीं अधिक आतंक हृदयाघात यानी 'दिल के दौर' से है। हृदयाघात (हार्ट अटैक) और पक्षाघात (मस्तिष्क अटैक) दोनों समस्याओं के मूल में एथेरोस्क्लेरोसिस की प्रक्रिया का महत्वपूर्ण योगदान होता है। एथेरोस्क्लेरोसिस का आशय है शरीर के मर्मन्तक अंगों को शुद्ध आक्सीकृत खून देने वाली धमनियों में चिकनाई का अम्बार लगना। इसके फलस्वरूप उन नसों में खून आगे नहीं पहुँच पाता है और प्रभावित अंग चाहे वह हृदय हो या मस्तिष्क धीरे धीरे करके गलने लगता है। हृदयाघात (दिल का दौरा / हार्ट अटैक) हृदय धमनियों में पनप रहीं एथिरोस्क्लरोसिस विकृति की चरम परिणति है।

एक मोटे अनुमान के अनुसार करीब ३२ करोड़ लोग अकेले भारत में हृदयाघात से पीड़ित है। इनमे से एक तिहाई ३५ वर्ष से कम उम्र के है। एक प्रश्न जो सबको समान रूप से व्यथित करता है वह यह कि आखिर हमारे जीवन में ऐसी कौन सी खराबी आ गई जिसके कारण हृदयाघात अब इतनी कम उम्र में इतने ज्यादा लोगो को हो रहा है ?

## एथिरोस्क्लरोसिस का आरम्भ :



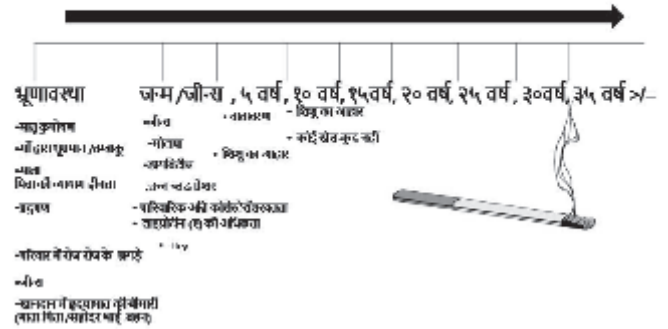
एथिरोस्क्लरोसिस की शुरुआत हृदय धमनियों की अत्यंत कोमल अन्तः कला (इंडोथीलियम) के क्षतिग्रस्त होने से होती है। यह क्षति धूम्रपान/तम्बाकू से उत्पन्न निकोटिन के जहर से, क्रोध/विषाद से उत्सर्जित कैटीकॉलएमाईन्स, जंक भोजन से एकत्रित दहनशील चिकनाई और साइटोकाइन्स, व्यायामहीन जीवन से शरीर में संग्रहीत अग्निमय वसा कण अथवा खानदानी कारणों से होती है। अंतःकला के क्षतिग्रस्त होने पर उसके मुँह पर खराब कोलेस्टेरॉल, प्रतिरोधी श्वेत रक्त कणिकाओं और बिम्बाणुओं (प्लेटलेट्स) का जमावड़ा होना शुरू हो जाता है। चिकनाई, श्वेत रक्त कण और बिम्बाणुओं के इस ढेर को एथिरोमा कहते हैं। एथिरोमा लैटिन शब्द है जिसका अर्थ है हलुवे जैसा ढेर। चिकनाई के इस उलल-जलूल ढेर के कारण

प्रभावित रक्त नलिका का मुँह बंद हो जाता है। इसके फलस्वरूप रक्त नलिका से पोषित हृदय की मांस पेशियों को शुद्ध रक्त नहीं मिल पाता है। शुद्ध रक्त से वंचित हृदय की मांस पेशियाँ गलने लगती है। शुद्ध रक्त के अभाव में हृदय चीत्कार करने लगता है। सीने में असहनीय दर्द होता है जिसे चिकित्सक एंजाइना या हृत्शूल कहते हैं। दिल की धमनियों में एथिरोस्क्लरोसिस जन्य अवरोध जब काफी बड़ा हो या लम्बे भूभाग तक हो तो दिल का बड़ा भाग निर्जीव हो सकता है जिसे तीव्र हृदयाघात कहते हैं। इसे चिकित्सक मायोकार्डियल इन्फार्कशन के संकेताक्षर एम आई के नाम से सम्बोधित करते हैं। ऐसी स्थिति में छाती का दर्द भयानक, प्राणलेवा और काफी देर तक १५ मिनट से आधे-एक घंटे तक चल सकता है।

हृत्शूल और तीव्र हृदयाघात दोनों खतरे की घंटी हैं। दोनों यह बताती है कि आपके हृदय की धमनियाँ एथिरोस्क्लरोसिस से दुष्प्रभावित हैं और किसी भी समय आपके प्राण संकट में पड़ सकते हैं।

आइये इस रेखांकन के माध्यम से यह समझने का प्रयास करें कि एथिरोस्क्लरोसिस के बीज गर्भधारण से लेकर हृदयाघात के विकसित होने तक किस प्रकार अपनी यात्रा पूरी करते हैं :

## एथिरोस्क्लरोसिस के बीज-भ्रूणावस्था से हृदयाघात तक की यात्रा



## एथिरोस्क्लरोसिस के पूर्व संकेत

एथिरोस्क्लरोसिस (एथिरोकाटिन्यता) का प्रारम्भ प्रायः भ्रूणावस्था से ही शुरू हो जाता है विशेषतः उन लोगो में जिनके माता-पिता धूम्रपान करते है या तम्बाकू का सेवन करते या माँ गर्भावस्था में कुपोषण से पीड़ित हों अथवा गर्भवती माँ के घर के अंदर बुरी तरह अंतर्कलह हो। जिनके निकट के संबंधियों में से (माता-पिता, भाई, बहन

नाना—नानी, मामा, बुआ, मौसी) किसी को डायबिटीज, ब्लडप्रेसर, हृदयाघात या पक्षाघात की शिकायत हो या माँ को गर्भ के समय ब्लड प्रेसर, डायबिटीज, पूर्व डायबिटीज, टाक्सिमिया प्रेगनेंसी की शिकायत हो उन बच्चों में भी एथिरोस्कलरोसिस की शुरुआत अपेक्षतया जल्दी होती है। प्रकृति कई ऐसे संकेत प्रायः देती है कि अमुक व्यक्ति में एथिरोस्कलरोसिस की प्रक्रिया तेजी से बढ़ रही है। या भविष्य में इसे शीघ्र हृदयाघात हो सकता है। **ये संकेत है :**

१. धूमपान करने वालों में समय से पूर्व बालों का पकना।
२. तम्बाकू सेवियों में कम उम्र में बालों का झड़ना।
३. आँखों की पलकों पर चिकनाई (कोलेस्ट्रॉल) के चकत्ते।
४. आँखों की पुतलियों में कार्निनियों के चारों ओर चिकनाई का चक्र।
५. कानों की ललरियों में झुर्रियाँ।
६. ओठों या गालों में धुएँ के धब्बे।
७. अंगुलियों के पोरों पर तम्बाकू के दाग।
८. पैरों में टखनों के पास की धमनियों में खून के प्रवाह में कमी या शिथिलता।
९. तोंद निकलना।
१०. मुँह में तम्बाकू—धूमपान के निशान।
११. मोटापा।
१२. कम उम्र में ब्लड प्रेशर।

१३. दुर्दशाग्रस्त दाँत।
  १४. कम उम्र में डायबिटीज (मधुमेह)।
  १५. चमड़ी में 'सोरियोसिस' रोग के निशान।
  १६. एनकाइलोजिंग स्पानडीलाइटिस (कमर और सैक्रोइलियक संधि में सूजन) इस रोग में रीढ़ की हड्डी बांस की तरह सख्त और अचल हो जाती है।
  १७. हथेली पंजों की हड्डियों में रुमैट्वाएड संधि रोग।
  १८. गाउट (गठिया) एनकाइलोजिंग स्पानडीलाइटिस, कर्मैटवाएज संफिरींग और गठिया आदि इन तीनों जोड़ों की बीमारियों में शरीर के अंदर तीव्र दाह (सूजन और जलन) की स्थिति होती है। हृदय धमनियाँ भी इन दशाओं में धधकती रहती है जिसके कारण इन वंशाओं में एथिरोस्कलरोसिस की प्रक्रिया बहुत तेज होती है।
  १९. ४५ वर्ष से पहले छाती के एक्सरे में महाधमनी में चूना जमा होने (कैल्सिफिकेशन) के चिन्ह।
  २०. गर्दन पर काली काली धारियाँ या अतिरिक्त चमड़ी की लटकन।
  २१. अल्ट्रासाउंड में ग्रीवा धमनी में चिकनाई की मोटी परत।
- अगली बार यदि आपको कोई अपना आत्मीय या सगा सम्बन्धी इन लक्षणों से युक्त दिखाई दे तो उसे आप एथिरोस्कलरोसिस के आसन्न खतरे से सावधान अवश्य करें। शायद आपकी इस जरा सी सावधानी से उसके प्राण संकट में पड़ने से बच जायें।

## एरोबिक एक्सरसाइज

हफ्ते में चार—पांच बार एरोबिक एक्सरसाइज करना काफी फायदेमंद रहता है। ट्रेड मिल खरीदने के लिए बिल्कुल भी न सोचें और इस पर वॉकिंग करें। ट्रेडमिल में गति को आप अपने हिसाब से नियंत्रित कर सकते हैं। साथ ही यह काफी सुविधाजनक भी होता है। मधुमेह के लिए यह सर्वश्रेष्ठ एक्सरसाइज में से एक है।

पर सावधान रहें... अगर आप मधुमेह से ग्रस्त हैं तो कोई भी एक्सरसाइज करने से पहले फिजिशियन से परामर्श जरूर लें। खासतौर से उन रोगियों को विशेष सतर्कता की जरूरत है जो इंसुलिन लेते हैं। यानी अगर ऐसे लोग एक्सरसाइज की योजना बना रहें हैं तो उन्हें विशेष सावधानी बरतनी चाहिए। साथ ही यह भी सुनिश्चित कर लें कि

आप खाली पेट कोई भी एक्सरसाइज न करें। ज्यादा से ज्यादा पानी पीएं और अपने शरीर को डिहाइड्रेशन से बचाएं। और हां, अगर आप कहीं बाहर जा रहे हों तो साथ में पानी का बोतल ले जाना न भूलें।





# Diabetes & Alcohol Consumption

FROM THE DESK OF LATE DR. V.K.GUJRAL



## If you have diabetes, you need to be careful with alcohol.

- Alcohol can affect how well you control your blood sugar (glucose) level.
- It can also increase risks to your health.
- Before choosing to drink alcohol, discuss it with your Doctor. He or she can help you decide whether you can drink safely.

### How Alcohol Can Affect Your Diabetes ?

Here are some of the ways alcohol can affect your health if you have diabetes:

It can make certain health problems worse. Alcohol may worsen disease of the liver, kidney, or pancreas. It may also make nerve or eye damage more likely. If you have any of these health problems, your Doctor will likely advise you not to drink alcohol.

It can increase your risk for low blood sugar (hypoglycemia). The liver helps prevent low blood sugar by releasing extra glucose into the blood. Alcohol in the blood keeps the liver from doing this. Low blood sugar is more likely if you drink alcohol on an empty stomach or during or right after exercise. It is also more likely if you take insulin or medications that help lower blood sugar. Also, alcohol may affect your ability to tell whether you have symptoms of low blood sugar. This may keep you from getting needed treatment.

It can increase your risk for high blood sugar (hyperglycemia). Many alcoholic drinks contain carbohydrates (carbs). These include beers, sweeter wines, and drinks mixed with fruit juices or sugar. Carbs raise blood sugar levels higher and faster than other kinds of foods. Drinking may throw off your ability to monitor your carbs.

It can affect how well you manage your weight. Alcohol is high in calories and has no nutrition. If you are on a meal plan to help control your weight, you will need to count alcohol as part of your daily calorie intake. A standard drink is usually counted as 90 calories or equal to one bread. In addition, alcohol can cause you to feel hungrier than normal. This makes you more likely to overeat, which can affect your weight and blood sugar level.

### Tips for Safer Drinking

Your doctor may give you the okay to drink in moderation. Here are some steps you can take to drink safely :

- Strictly follow the drink limits given to you by your Doctor.
- Check your blood sugar level before drinking. Do not drink if your blood sugar level is too low or too high.
- Also, check your blood sugar level after drinking or before going to bed. This is because alcohol can stay in the blood for many hours after drinking. If your blood sugar level is low or dropping, you may be able to treat it with a snack or glucose tablet before it worsens.
- Ask your Dr., how alcohol will affect insulin or any medications you take.
- Never drink on an empty stomach.
- Never drink during or after exercise.
- Do not drink any alcohol if you are going to drive.
- Be smart about what you drink. This means choosing drinks that are lower in alcohol, calories, and carbohydrates. Options include dry wines, light beers, or mixed drinks with sugar-free juice, club soda, or sparkling water.
- Carry medical ID that tells others you have diabetes. This helps ensure that you receive proper treatment, if needed.

### \*\*\*Alcohol Guidelines

If your Dr. has cleared you to drink, limit drinking to :

Women : No more than 1 drink a day

Men : No more than 2 drinks a day

One drink equals 360 ml. of beer, 150 ml. of wine, or 45 ml. of hard liquor like whiskey, Gin or Vodka!

# पारिवारिक अतिकोलेस्टेरॉल रक्तता

प्रोफेसर (डॉक्टर) श्रीधर द्विवेदी

वरिष्ठ हृदय रोग विशेषज्ञ, नेशनल हार्ट इंस्टिट्यूट, नई दिल्ली

पारिवारिक अतिकोलेस्टेरॉल रक्तता अर्थात् परिवार के सदस्यों में जींस उत्परिवर्तन (म्यूटेशन) के कारण रक्त में कोलेस्टेरॉल की अधिकता। यह दोष विभिन्न जींस जैसे एल डी एल रिसेप्टर, एपो बी रिसेप्टर, या पी सी एस के ६ रिसेप्टर के उत्परिवर्तन (म्यूटेशन) के कारण होते हैं। जींस में ऐसा म्यूटेशन ऑटोसोमल डॉमिनेंस प्रक्रिया के अंतर्गत होता है। आज के समय में जब दिल के दौरे जैसी बीमारी ने एक उग्र महामारी का रूप धारण कर रखा है वह भी युवा वर्ग के लोगों में उस सन्दर्भ में यह चिकनाई दोष अत्यंत महत्वपूर्ण माना जाता है।

पारिवारिक अतिकोलेस्टेरॉल रक्तता दो प्रकार की होती हैं

- (१) सजातीय पारिवारिक अतिकोलेस्टेरॉल रक्तता— जो अति दुर्लभ होता है। करीब १० लाख वयक्तियों में से एक को।
- (२) विजातीय पारिवारिक अतिकोलेस्टेरॉल रक्तता — यह अपेक्षाकृत ज्यादा पाया जाता है। करीब ५०० लोगों में से एक व्यक्ति को यह दोष हो सकता है।

चिकित्सक इन दोषों की क्लिनिकल पहचान पलकों के ऊपर चिकनाई के चकते जिन्हे जैथिलेज्मा कहते हैं, या स्वच्छ मंडल (कार्निया) के चारो और वर्तुलाकार चिकनाई का घेरा जिसे कार्निअल आरकस कहा जाता है अथवा शरीर के किसी भाग में चिकनाई के गोल – गोल पिंड जिन्हे जैथोमा कहते हैं, की उपस्थिति से करते हैं। इस प्रकार के प्रचुर चिकनाई के पिंड अक्सर परिवार के किसी निकट सदस्य जैसे माता-पिता, भाई-बहन, नाना-नानी, बुआ मौसी के अंदर पाए जाते हैं। कभी कभी इस दोष का पता तब चलता है जब किसी को जवानी में ही दिल का दौरा पड़ जाये। (देखें चित्र एक और दो – सगे भाई बहनों में विस्तृत जैथिलेस्मा और हलके हलके

मोती के दानों जैसे जैथोमा के पिंड हाथ और पीठ में। दोनों को कम उम्र में हृदय शूल / हृदयाघात। भाई धूम्रपान भी करता था)



चित्र 1



चित्र 2

सजातीय पारिवारिक अतिकोलेस्टेरॉल रक्तता में सम्पूर्ण कोलेस्टेरॉल तथा निम्न घनत्व कोलेस्टेरॉल जिसे लो डेन्सिटी लाइपोप्रोटीन कोलेस्टेरॉल (एल डी एल कोलेस्टेरॉल) कहते हैं की मात्रा बहुत अधिक होती है जबकि उच्च घनत्व कोलेस्टेरॉल अर्थात् हाई डेन्सिटी लाइपोप्रोटीन कोलेस्टेरॉल (एच डी एल कोलेस्टेरॉल) की मात्रा सामान्य से बहुत कम होती है। उल्लेखनीय बात यह है कि ट्राइग्लिसराइड चिकनाई सामान्य होती है। इस दोष से पीड़ित व्यक्तियों के हृदय का सांगोपांग परीक्षण (ई सी जी, ईको तथा टी एम टी) जरूरी होता है। ईको की जांच से हृदयाघात का साक्ष्य और कभी कभी महाधमनी (एओर्टा) की कपाटिका में यदि प्रभूत कोलेस्टेरॉल जमा होने के कारण संकीर्णता उत्पन्न हो जाये तो उसका निदान आरंभिक अवस्था में लगाया जा सकता है। सजातीय पारिवारिक अतिकोलेस्टेरॉल रक्तता का औषधीय उपचार अब पी सी एस के ६ रिसेप्टर इन्हीबीटर्स से काफी सरल हो गया है। आवश्यकता इस बात की है कि चिकित्सक समुदाय आज की तारीख में इस दोष के विषय में पूर्ण सचेत रहें।

# अत्यंत त्वरित और व्यापक एथिरोस्कलरोसिस

प्रोफेसर (डॉक्टर) श्रीधर द्विवेदी

वरिष्ठ हृदय रोग विशेषज्ञ, नेशनल हार्ट इंस्टिट्यूट, नई दिल्ली

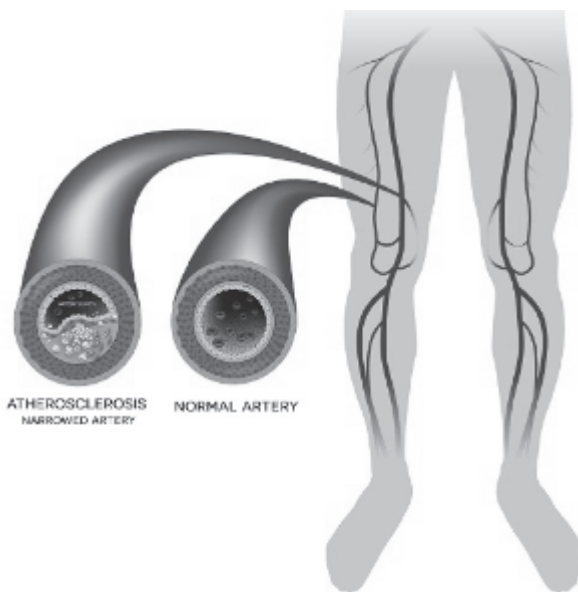
‘अपनी सेहत  
अपने हाथ’

एथिरोस्कलरोसिस धमनियों के अंदर खराब चिकनाई और बिम्बाणुओं के जमाव के कारण उत्पन्न अवरोध की प्रक्रिया का नाम है। इसके कारण धमनियों के अंदर रक्त प्रवाह में बाधा उत्पन्न होती है। यह अवरोध जब हृदय धमनी में होता है तो हृदयाघात, मस्तिष्क या ग्रीवा धमनी में हो तो पक्षाघात (लकवा), पैरों की रक्त नलिकाओं में हो तो नासूर या पिंडलियों में शूल और हाथ की धमनियों में हो तो बाजुओं में दर्द होता है विशेषतः उस समय जब हाथ-पैरों को अधिक परिश्रम करना पड़े तब। चिकित्सक इन्हीं कारणों से एथिरोस्कलरोसिस के प्रति विशेष सचेत रहते हैं। समय रहते ही इसका निदान और उचित चिकित्सा व्यवस्था करते हैं।

विगत पचास वर्षों में चिकित्सा के क्षेत्र में प्रतिबिम्ब चित्रण की विधाओं (अल्ट्रासाउण्ड, डॉप्लर, ईको, एम आर आई, एंजिओग्राफी, एम आर एंजिओ, थैलियम स्कैनिंग, सी टी एंजिओ, डिजिटल सबस्ट्रक्शन एंजिओग्राफी, आदि आदि) में अभूतपूर्व प्रगति हुई है जिसके फलस्वरूप अब हम एथिरोस्कलरोसिस की आरंभिक अवस्थाओं का भली भांति चित्रण कर सकते हैं और मरीज को साधिकारिक रूप से बता सकते हैं कि उसकी हृदय नलिकाओं और विभिन्न मुख्य धमनियों जैसे ग्रीवा धमनी, महाधमनी, ऊपरी बाहु धमनी (हाथों की), अधः बाहु धमनी (पैरों की) में एथिरोस्कलरोसिस की प्रबलता कैसी और कितनी है।

इसके मूल्यांकन में ईको और डॉप्लर की मुख्य भूमिका होती है। आज के समय इन विधाओं की महत्ता इसलिए बढ़ गयी है क्योंकि अब कम उम्र के लोगों में हृदय धमनियों के अतिरिक्त अन्य धमनियों में भी एथिरोस्कलरोसिस का व्यापक और त्वरित प्रसार देखा जाता है। ऐसी स्थिति प्रायः डायबिटीज से पीड़ित लोगों में या धुआँधार धूम्रपान करने वालों में देखी जाती है। कभी कभी पारिवारिक अतिकोलेस्ट्रॉल रक्तता, पारिवारिक अतिहोमोसिस्टिनीमिया या प्रोटीन सी अथवा प्रोटीन एस की कमी में भी यह स्थिति हो सकती है।

ऐसे मरीज हृदय शूल के अतिरिक्त पैरों में दर्द, बाजुओं में दर्द या सर में चक्कर से पीड़ित हो सकते हैं। इस अवस्था का शीघ्र मूल्यांकन होना मरीज की दूरगामी भलाई के लिए अत्यंत आवश्यक होता है।





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# WATCH THAT WAISTLINE!

Dr. Anirban Kundu, Consultant Cardiac Surgeon

Dr. O. P. Yadava, Chief Cardiac Surgeon

National Heart Institute, New Delhi

Obesity is now a certified pandemic, affecting a large proportion of the world population. Societies that were previously described as 'developing' or 'poor' are also falling victim to this disorder. Few realize that obesity is considered a form of malnutrition, as opposed to undernutrition, something most people associate with developing or 3<sup>rd</sup> world countries. Faulty eating habits, defective diets, a bit of cultural factors and a dash of genetics are the culprits to be blamed for this obesity pandemic, or globesity as it has been recently dubbed. Indeed, a major offshoot of globalization and the emergence of the global village is the adoption of an unhealthy diet and lifestyle. So it is that we have a young executive of age 34, sitting in his car sipping on a cola and munching on a burger, cursing the traffic he is stuck in, only to be back at work the next day with deadlines to meet and profitlines to boost. This could be the scenario anywhere in the world's leading cities. It is beyond the scope of this article to argue whether *this* actually is the road to prosperity or not. But the fact remains; our intrepid executive sweating it out in the traffic will probably have a generous waistline before his 40<sup>th</sup> birthday. And with it, a host of other diseases like diabetes, kidney, eye and vascular diseases and, the much-dreaded coronary artery disease (CAD).

Worldwide obesity gains 30 %



But just how do we define or quantify obesity? Rather than simply labeling a person fat on objective appearance (and offending him/her!), we use a measure known as Body Mass Index (BMI). This is calculated by the formula  $\text{Weight (in kg)} / (\text{Height in metres})^2$ . Based on this, a person is classified as obese if his/her BMI is between 30 & 39.9 and as morbidly obese if it exceeds 40. Morbid obesity is classified separately from obesity because the medical problems arising from obesity assume life-threatening proportions at those levels.

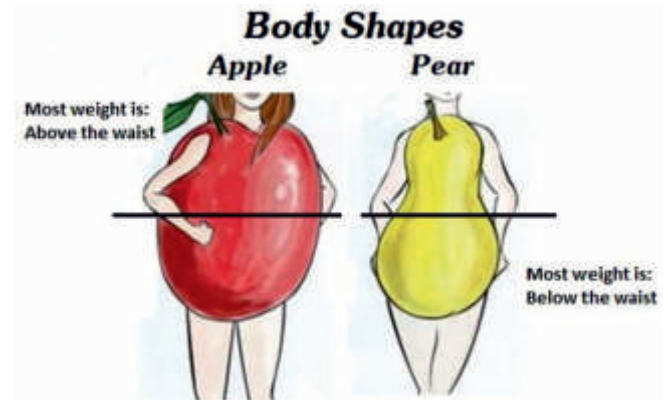
Now, we all know that an increased proportion of fat (known in medical parlance as adipose tissue) in the body is associated with an increased incidence of diabetes mellitus, peripheral arterial and venous disorders and CAD. But what is more important is that an increased proportion of fat in the truncal or central region of the body, including abdomen and waist, (the 'apple'- like appearance) more so increases the incidence of CAD. Such a distribution of fat has also been shown to be associated with a higher incidence of insulin resistance in diabetics.

Studies on large populations of men and women with truncal obesity established that this is a weightier (pun intended!) risk factor in the development of CAD. The methodology of these studies involved measuring what is known as the plaque burden of the disease in the coronary arteries or in simpler language, the extent of narrowing in the blood vessels of the heart. This was indirectly measured by assessing the extent of calcium deposits in the coronary arteries on radiological imaging studies like CT scan, something known as Coronary Artery Calcification Score (CACS). Snell-Bergeron et al, in 2004 found that BMI, waist circumference and truncal fat measured on CT scan were significantly associated with CACS in men and women aged 20-58 years. Another study of 443 asymptomatic adults (again aged 20-58) revealed that waist circumference, waist-to-hip ratio and BMI were directly proportional to a 9-year progression of Coronary Artery Calcification only in those with a lower risk of CAD.

Striking a different note was the Rancho Bernardo study published five years ago. It found that body weight and fat distribution did not predict coronary artery plaque burden in elderly adults (aged 55-88 years), without clinically obvious CAD. This was also supported by other studies. The authors concluded that this may have been due to obesity having contributed to raising the risk for CAD during younger years; or perhaps age-related weight loss (remember, this was an older group of people) would have blunted the effects of fat in this group.

However, the really interesting facet would be the sex-related differences in obesity. It is well-known that women have a poorer outcome than men after a heart attack, angioplasty or Coronary Artery Bypass Grafting. They are more likely than men to succumb after a first attack; and for survivors, there is a higher risk of recurrent attacks, heart failure or death. The waist – hip ratio (WHR) was traditionally used to measure central obesity. But because excess fat is concentrated in the hip in women and in the waist in men, the optimum WHR is lower in women (<0.75) than in men (<0.95). Recently, waist circumference has been found to be a

simpler and better marker of central obesity. Here again, the optimum value for women is 10 cm lower; <80cm as opposed to <90cm for the males. So it is apparent that the threshold for entering the 'high-risk' zone is lower for women (with due apologies to feminists!). It is quite plausible that sex differences in central obesity are the key to the gender gap in CAD.



The moral of the story is that you have good reason to worry if you resemble a pear (excess fat in buttocks and thighs); and reason enough to really lose sleep if you look like an apple (truncal obesity)! In either case, it would be advisable to simply hit the treadmill and go from looking like an apple or a pear, to looking like a slender, slim drumstick! And remember, there are no shortcuts to losing fat, even from a particular area of the body (so-called spot reduction), apart from the time-honored diet and exercise.





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