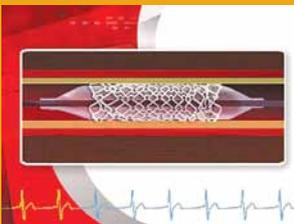
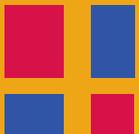




# MARUTHUVA

# VIVEKAM



ABC of  
Angioplasty

“Mama’s got  
palpitations”



Stents:  
Heroes of  
Angioplasty



## HEART REVIVE

Revolutionary advances in  
heart care that can save lives



## From the Chairman's Desk

Dear Friends,

Greetings! We all know someone whose life has been tragically cut short through heart disease, more often than not, heart attack. Heart attack is the No. 1 killer in the world and India has the highest incidence of cardiac disease. The key to surviving any heart disease is recognizing the symptoms and getting to the right center on time. Not just any emergency room or clinic but a center which can give you the right treatment, before heart damage sets in.

This issue of Maruthuva Vivekam covers all these matters of the heart and introduces the MIOT Heart Revive Center which is in a section of our much awaited MIOT International building.

I hope you find the issue useful and as always, I await your feedback.

Stay healthy,

Mrs. Mallika Mohandas  
Chairman, MIOT Hospitals

## Laughter is the Best Medicine



"First we insert a balloon to open the clogged artery, then we fill the balloon with helium so you weigh less."



"Cholesterol is good for you. It clogs your veins so you don't bleed as much when you get a cut!"

## Front Piece

## Close to my heart...

As you all know I am an Orthopaedic Surgeon dealing with diseases of the skeleton and injuries to it. It did not take me long to realize that patients do not approach me only with problems of the bone. We require constantly the expertise of the heart specialists prior to and after surgery.

Besides this, many instances of sudden heart problems among my friends and relatives made me realize that we should have a separate and dedicated Centre for Heart ailments.

In the early hours of the morning my friend's wife rang me up, worried, saying that her husband had been rolling in bed with a vague pain for most part of the night. Suspecting a heart attack, I instructed her to move his shoulder and see whether he found that painful. When she answered in the affirmative, my fears were confirmed and I not only alerted the ambulance, but drove myself over (which was fortunate, as my friend, feeling much better, was hesitating to get into the ambulance).

When we reached MIOT, we found he had had a heart attack and in the next few minutes we did angioplasty; stenting the vessel and saving him from any damage to the heart.

2 years back, on a Sunday morning, another close friend's son, who was a fitness freak was cycling down the Bangalore highway. There was a

truck in front of him and he cycled hard to overtake it. He developed sudden palpitations and was brought to the hospital in distress. When we examined him, his heartbeat was 200 when a normal person's heartbeat is between 60-100! Later we found out he had a family history of palpitations, known as Arrhythmia which can be fatal. It happens because of a malfunction in the special cells which conduct electrical

Doctors on a 24 hour basis. Patients with a critical block in the heart vessels can be saved by offering them **angioplasty** or **CABG** on an emergency basis. Patients with **arrhythmia** or **slow heartbeats** can have permanent solutions at our Electro Physiology Lab without any waste of time.

In this instance I would like to give you an example- Another friend who had been having mild chest



signals between the upper right chamber to the lower chambers of the heart. At that time he recovered with rest and medication. Today he would be permanently treated using Radio Frequency Catheter Ablation.

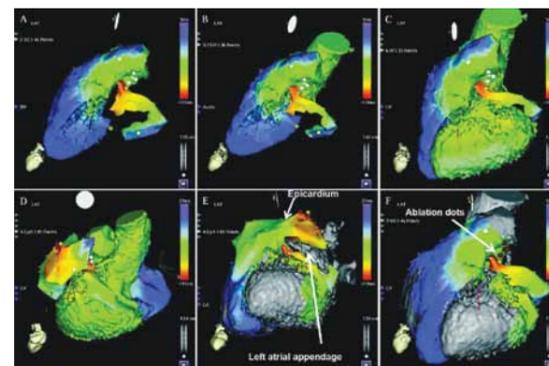
These instances made me realize that heart patients should not be mixed with the rest of the patients in the hospital and that they require a separate unit where they can be examined, investigated in detail and treated quickly, avoiding permanent damage.

This led to the birth of **MIOT Heart Revive Center**. It has an emergency heart care unit where patients with chest pain will be investigated extensively and looked after, by highly qualified and experienced

pain was going to a Physician for months, without realizing that there was a block in his heart vessel. By the time it was discovered, the heart muscles had already been extensively and irreversibly damaged (cardiomyopathy). At a young age of 55 years he resigned from his position, led a sedentary life and passed away.

So, it is very important, that if you have chest pain or discomfort you reach the hospital within the golden hour and we promise that you will be looked after by Highly Qualified Specialists of extensive experience, any time of the day or night.

**PROF. DR. P.V.A MOHANDAS**



# MIOT HEART RE>i<E CENTER

*MIOT's new initiative takes heart care to a new level.*



Chest pain, sweating, heavy breathing, pain in the arm... If you are having these symptoms of heart trouble, then time is everything. Every minute your heart is cut off from blood supply, parts of it are dying. There are three factors vital to your

quick recovery - a high caliber, cardiac team available at all times, top-line facilities in diagnosis and treatment and all of this coordinated seamlessly in one Center, without any waste of time. **MIOT Heart Revive Center** offers all of these.

## Door to balloon in 90 minutes

When you rush to MIOT Heart Revive Center you will be received by specialists, whisked from ambulance into a well-equipped resuscitation bay, quickly stabilized, then wheeled into diagnostics. If blocks are detected, then, within minutes you will be prepared for **Angioplasty** where our team of interventional cardiologists will unblock the artery using balloons and stents. The quicker the stent is in place, the faster it restores the blood supply to the heart, sparing it from long term damage.

If the condition is too complex for stenting, you will be immediately referred to our excellent **Centre for Thoracic and Cardiac Care** which does over 500 cardiac surgeries annually with superb outcomes.

## Arrhythmia Treatment

What if it's not a heart attack at all? MIOT Heart Revive Center also offers treatment for **Arrhythmia** (palpitations) & slow heart beats. Our Electro Physiology experts offer the latest and



most effective treatments in this field - whether it is treating palpitations with Radio Frequency Ablation or inserting a pace maker for slow heart beats.

**Radio Frequency Ablation** is the latest procedure worldwide and can be done within 30 minutes to an hour, using 3D mapping - offering life-long relief to the patient.

## Advantage MIOT

### Specialists - On Call 24x7

At MIOT Heart Revive Center we guarantee this specialist attention-any time of the day or night.

Our team is top-notch-some of them with impressive credentials in emergency cardiac care in the UK. They are ably assisted by well-trained emergency paramedics, nurses and technicians - all, committed to reviving and restoring your heart in the shortest possible time.



### Cutting Edge Equipment:

Our specialist team is also supported with some of the best diagnostic and treatment equipment in the world. The Center has under one roof:

- The path-breaking **Discovery 750 HD CT** that seamlessly images the entire heart in one single phase. It gives physicians 47% more image clarity, so they can give you a much more accurate diagnosis.
- The state-of-the-art **Phillips FD 10 Cardiac CATH lab** with innovative



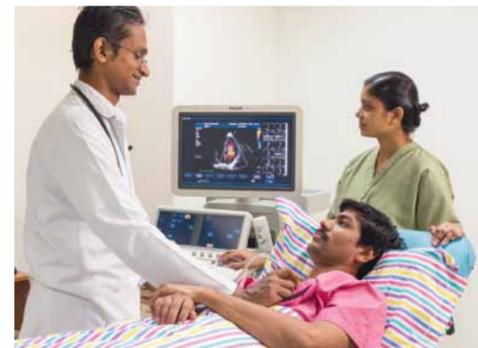
**OCT** (Optical Coherence Tomography) guidance system that is superior to the conventional angiogram. OCT allows specialists to see the inside of arteries through a light source, for more effective and long-lasting stenting. MIOT is the first Center in Tamil Nadu and only the third Center in India to acquire this guidance system.

- The wide range of stents for better choice, including third- generation bio-degradable **Drug Eluting Stents** that prevent re-narrowing of arteries and are highly absorbable.

In fact advances in imaging and stent technology have made many complex angioplasty procedures possible which normally would have been referred for Bypass Surgery.

The Center is also developing a fleet of dedicated ambulances with experienced paramedics and all resuscitation equipment. The paramedics will be able to obtain ECGs and transmit them so

that the expert team at MIOT Heart Revive Center can advise appropriate pre-treatment and be on full alert to receive the patient at the hospital.



All you have to do is call MIOT Heart Revive Center Dedicated Emergency Numbers (24x7): **2249 9800, 99413 66699 & 98400 00555**

**MIOT INSTITUTE OF CARDIAC CARE**



# Heart Alarm: Signs and Symptoms

Learn to recognize the signs and symptoms of the World's No.1 Killer-Heart Attacks



a sign of a heart attack. Heart attack pain sometimes feels like indigestion or heartburn. Yet, all chest pain should be checked by a doctor.

## Also watch out for:

- Upper body discomfort in one or both arms, the back, neck, jaw or upper part of the stomach
- Shortness of breath
- Nausea, vomiting, light-headedness, sudden dizziness or breaking out in a cold sweat
- Sleep problems, fatigue (tiredness), or lack of energy

If you've already had a heart attack, your symptoms may not be the same for another one. The more signs and symptoms you have, the more likely it is that you're having a heart attack.

## Act Fast

The signs and symptoms of a heart attack can develop suddenly.

However, they can also develop gradually over few hours or days.

Know the warning signs of a heart attack so you can act fast to get treatment for yourself or someone else. The sooner you get emergency help, the less damage your heart will sustain.

If you think you or someone else may be having a heart attack call an ambulance right away. If you're already a heart patient, call for help if your chest pain doesn't go away as it usually does when you take medicine.

Do not drive to the hospital or let someone else drive you. Call an ambulance so that medical personnel can begin life-saving treatment on the way to the emergency room.

**Dr. V. Viswanath**, M.D, DM (Cardiology)  
Interventional Cardiologist  
MIOT Heart Revive Center

<p>Chest discomfort</p>	<p>Arm or back discomfort</p>	<p>Neck or jaw discomfort</p>
<p>Trouble breathing, with or without chest discomfort</p>	<p>Feeling light-headed or breaking into a cold sweat</p>	<p>Feeling sick or discomfort in your stomach</p>

Not all heart attacks begin with the sudden severe crushing chest pain as shown on TV. Many heart attacks start slowly as mild pain or discomfort. The warning signs aren't the same for everyone. Some people don't have symptoms at all. These are called silent heart attacks and they are usually experienced by patients who are older, female or diabetic.

## Chest Pain or Discomfort

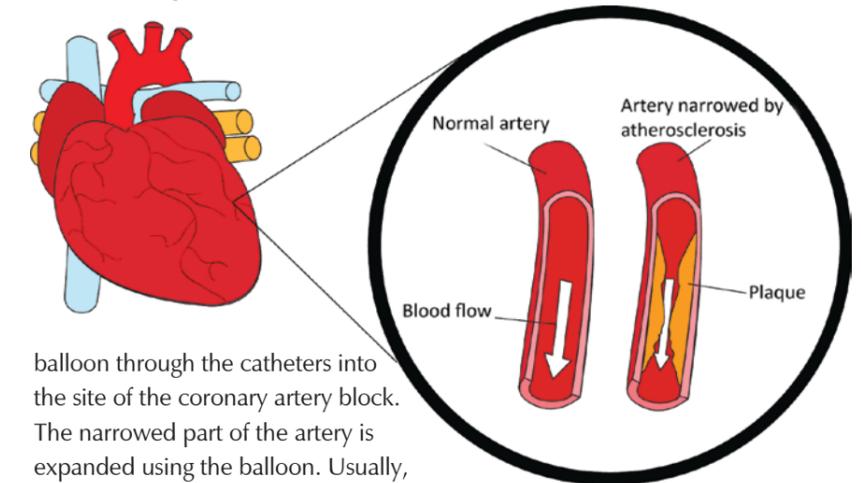
The most common heart attack symptom is **chest pain or discomfort**. You will feel discomfort in the center or left side of the chest that often lasts for more than a few minutes or goes away and comes back. The discomfort can feel like uncomfortable pressure, squeezing, fullness or pain. The feeling can be mild or severe.

Chest pain or discomfort that doesn't go away or changes from its usual pattern (for example, occurs more often or while you're resting) can be

Article

# The ABC of Angioplasty

Arm yourself with key facts on this life-saving cardiac procedure...

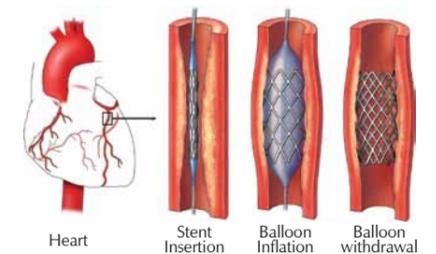


balloon through the catheters into the site of the coronary artery block. The narrowed part of the artery is expanded using the balloon. Usually, a mesh tube (stent) is placed inside the artery to hold it open and prevent re-narrowing. At the end of a successful angioplasty, the narrowed part of the artery is fully opened and normal flow of blood is restored to the heart, relieving the patient from symptoms.

artery permanently, to hold it open and improve blood flow to the heart.

The stent will be completely covered by natural tissue in 4-6 weeks. There is no history of rejection or allergic reactions due to a stent.

## Risks and Recovery



In the hands of an experienced cardiologist an angioplasty takes only **30 minutes to an hour** to perform and the risk to life is minimal (< 0.5%). You should be able to return to work or your normal routine in 2-3 days with medications for a few weeks to prevent clots till the stent is completely covered by natural tissue.

Successful angioplasty also means you might not have to undergo an invasive coronary artery bypass surgery where recovery will be more painful and may take months.

30 year old Martinho was happy to escape from his workstation. He and his colleagues had been sent by their IT Company to have their annual Master Health Check Up. Martinho had been experiencing vague chest pain over the past two days but put it down to heartburn from too much pizza and cola and in fact felt that he had done rather well on his treadmill test. He was, therefore, shocked to hear that his ECG was far from normal. One of his arteries was severely narrowed and unless he



underwent an angioplasty to unblock the artery he was in imminent danger of a heart attack!

## Angioplasty? What's that?

When medication or lifestyle changes aren't enough to reduce the effects of blockages in your arteries or if you have consistent and worsening chest pain, your doctor might suggest a procedure called **Coronary angioplasty**.

For this you will first have to undergo an angiogram to see how many coronary blocks you have. (Generally single or double vessel blocks are cleared through angioplasty. However, in certain cases, 3 or more blocks can also be treated.)

During the procedure, the cardiologist would introduce a miniaturized

## Through a Pinhole

Martino was also relieved to hear that Coronary angioplasty is a lot **less invasive** than open surgery. In fact in a technologically advanced center the procedure could be carried out through a 2.0mm 'pin-hole' access in his wrist. No general anaesthesia is needed for angioplasty which makes it safe for people of any age group, including those in their nineties.

## 'A stent in my heart?'

A coronary stent is a stainless steel alloy tube with slots. It is mounted on a balloon catheter in a collapsed state. When the balloon is inflated, the stent expands or opens up and pushes itself against the inner wall of the coronary artery. This holds the artery open when the balloon is deflated and removed. Stents provide added support and remain in the

Did You Know

# Stents: The Heroes of Angioplasty

*They dispense drugs, they are now absorbable... discover the powers of Third Generation Stents*

The heroes of coronary angioplasty, stents are the **mesh metallic tubes** that keep the dilated artery open, restoring normal blood flow to the heart.

As angioplasty became standard procedure all over the world, stent technology too advanced in leaps and bounds. Stents have become sleek, absorbable and deliverable to the most tortuous and distal vessels facilitating multi-vessel angioplasty as a viable alternative to bypass surgery in the vast majority of patients.

## Stainless steel and beyond



Bare-Metal stents

The original Bare-Metal stents were made of stainless steel. They were bulky and difficult to manipulate in hard-to-reach vessels. There was always the danger of **restenosis** (the narrowing came back).

The first key development since then was in the material the stents were made of. Stents made from alloys such as platinum-chromium and cobalt chromium were more visible and deliverable, with less chances for a recurrence of narrowing.

However narrowing still occurred. To combat this came the next big leap that revolutionized the field of coronary angioplasty - the development of **Drug-Eluting Stents (DES)**.

## Stents that disperse medication

DES had special drugs applied on them so that the narrowing did not recur (or did very rarely) Since then Drug-Eluting technology has developed significantly accounting for the vast majority of stents implanted today.



Again, the early DES were difficult to deliver as they were bulky. This has been overcome by the third generation DES, now available with **much thinner struts**. In fact, we are now on the threshold of fourth generation, fully absorbable DES.

## Viable option to Bypass surgery

Other advances include the development of special stents for branches in the coronary vessels. These were difficult to treat as sometimes the branches closed off. We now however, have **special stents with side branches** (various configurations) that are designed specifically for this.

This coupled with advances in imaging such as **OCT** (Optical Coherence Tomography) have enabled the use of coronary angioplasty in patients who would normally be referred for a Bypass Surgery.

**Dr. Nandakumar Ramasami**  
MBBS, MRCP (UK), CCT (Cardio) UK  
Interventional Cardiologist  
MIOT Heart Revive Center



Cutting Edge

# LET THERE BE LIGHT

*OCT - the latest imaging technology using light, is taking Angioplasty to a new level*

Coronary angioplasty evolved considerably over the decades. However imaging during angioplasty has not kept pace. In India, 95% of the time, conventional angiography is still used as guidance.

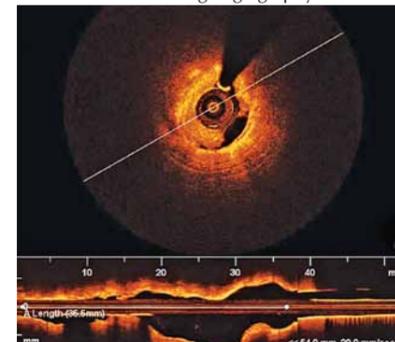
Angiography has its own limitations as it only visualises the lumen (the cavity filled with blood) of the arteries and not the arterial wall. Ideally, the Interventional Cardiologist should be able to see both.

## The advent of OCT

**Optical Coherence Tomography (OCT)** is a novel technique that's superior to angiography. OCT is a simple procedure which can be performed during angioplasty using a special



Narrowed Left Circumflex artery seen during angiography



Narrowed Left Circumflex artery seen during OCT

catheter. It has a light source which helps in visualizing the inside of the arteries which cannot be seen through angiography. The arterial wall can be visualised using contrast injection and clear, high definition images of the artery and any cholesterol plaque can be obtained.

## How does it benefit you?

- OCT assists in optimization of stenting in angioplasty, helping them last longer.
- OCT helps Interventional Cardiologists visualize the inside of coronary arteries, the severity of blockages and the type of plaque clogging the arteries. This clarity helps them perform complex coronary angioplasties with confidence and obtain results comparable to bypass surgery. MIOT is the first Center in Tamil Nadu and only the third Center in India to acquire this guidance system.

## OCT in action

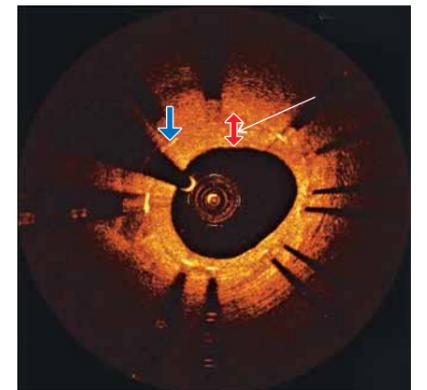
OCT is most helpful in patients with re-narrowing of stents where the cause for re-narrowing can be identified and can be fixed with balloon angioplasty or further stenting.

This was put to the test recently when a 73 year old man visited the hospital complaining of chest pain. In 2006 he had undergone an angioplasty using one of the early metal stents. Unfortunately, because of his diabetes and other medical problems, the stent had re-narrowed.

OCT revealed that tissue was growing within the stent and almost blocking

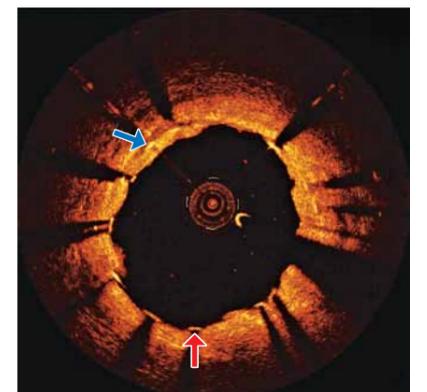
the stent. This may not have been revealed in a regular angiogram.

Using OCT guidance the cardiac team were able to perform a complex procedure introducing the latest Drug Eluting Stent within the old stent, which would safeguard against re-narrowing, successfully.



Blue arrow pointing to the old stent strut with tissue growing beyond it

Red arrow pointing to the tissue thickness which has grown within the stent



Blue arrow pointing to the old stent strut (with layer of tissue and new stent on top)

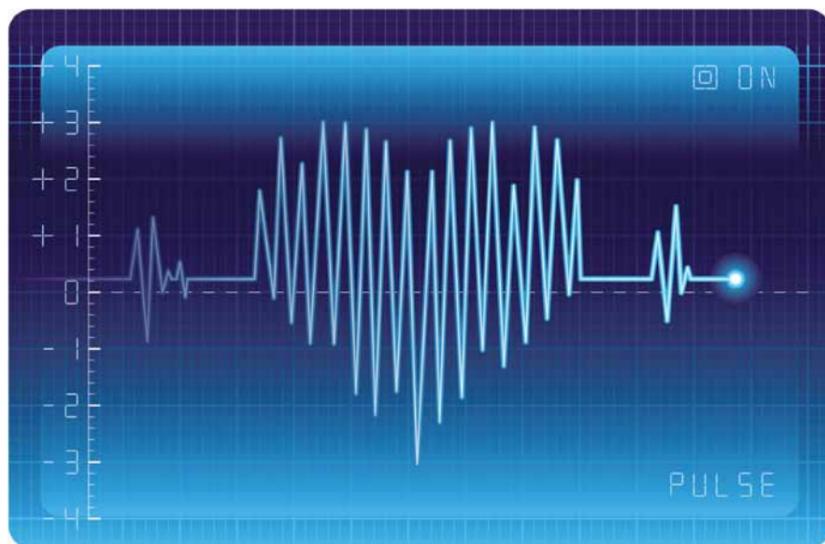
Red arrow pointing to the new stent strut expanding the vessel and the old stent Two layers of stents seen clearly - only possible with OCT

**Dr. Amal A. Louis**  
MBBS, MRCP (UK), CCST (Cardio) - UK  
Interventional Cardiologist  
MIOT Heart Revive Center

Cutting Edge

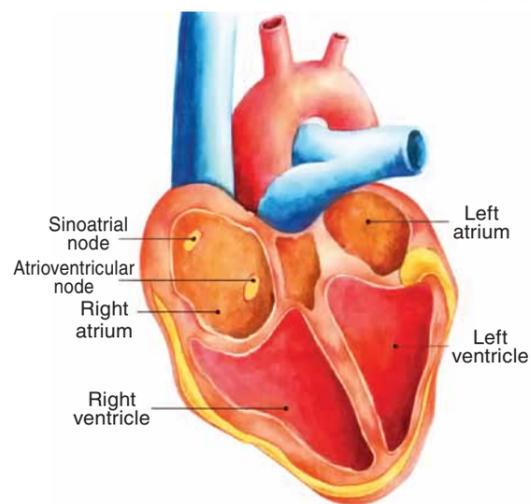
# “Mama’s got palpitations again!”

*Unlike what popular media portrays, palpitations are not always a result of shock or distress from winning a lottery or seeing your kid’s poor report card. It could be due to a medical condition called arrhythmia of the heart...*



Arrhythmia is defined as irregular heart beat which can be either faster or slower than normal.

Each year, millions of people are affected by arrhythmias, most of which are treatable and are not life-threatening. However, some arrhythmias can be dangerous and even cause sudden death. Early diagnosis and treatment can help decrease deaths and discomfort from arrhythmias.



## What causes Arrhythmia?

The heart has a ‘**natural pacemaker**’ called the Sinus Node, located in the right upper chamber. This generates the electrical impulses that regulate the heart beat. A normal heart rate for an adult is between 60 to 100 beats per minute. Another area at the centre of heart called **Atrio-Ventricular Node (AV)** manages the electrical impulse from atrium to ventricles (lower pumping chambers of the heart). Arrhythmia occurs when the AV node fails to conduct the impulse appropriately, causing the heart to beat either too fast or too slowly.

## Faster or Slower?

Fast heart rate - of over 100 beats per minute is called **Tachycardia**.

Slow heart rate - of less than 60 beats a minute is called **Bradycardia**. Either of these will cause you to experience symptoms like palpitations (where you will feel your heart hammering in your chest), palpitations accompanied by chest pain, frequent spells of giddiness and breathlessness.



## A Permanent Cure

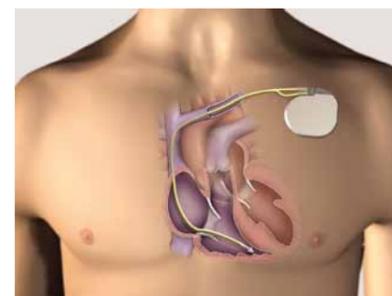
Tachycardia can be treated with medication. But these rate-lowering drugs **control rather than cure** and have side effects like low heart rate and excessive fatigue.

Recently a new and more effective cure has emerged called **Radio Frequency Ablation (RFA)**.

In this procedure the heart’s electrical activity is mapped by placing a special catheter in the heart through the vein in the leg, to detect the source of an arrhythmia. If a specific area is identified, then radio waves are emitted from the tip of the heart catheter to destroy the tissue causing the arrhythmia.

Using latest technology like **3D Mapping**, this one-time procedure can be done in 30 minutes to an hour.

Article



## Avoiding ‘Sudden Death’

Some arrhythmias like **Ventricular Tachycardia** are life threatening and can cause sudden death. If detected in time, **Automatic implantable defibrillators (AICD)** are implanted like **pacemakers**, which can quickly detect an arrhythmia and convert it to normal rhythm. RFA is also offered in some cases.

**Pacemaker implantation** is also the only treatment recommended for Bradycardia or “slow heart rate” which is usually caused by sinus node dysfunction or AV nodal block.

## The ‘Magic’ of RFA

Much to his embarrassment Sriram, a high school student, found himself fainting frequently.

With his Std 12 exams around the corner, his anxious parents took him for a series of tests. He was diagnosed with arrhythmia of the heart and put on rate controlling drug. For a while he seemed better and began preparing for his exams with gusto.

Unfortunately one day, right after his Physics paper, Sriram blacked out again. The search of a solution finally brought him to MIOT.



When the Electro Physiologists at MIOT saw Sriram’s ECG they understood why the medication did not work. His was no ordinary arrhythmia but the deadly ventricular tachycardia that could cause sudden death!

Luckily the hospital has a sophisticated Electro Physiology Lab, where with 3D Mapping they isolated the area causing Sriram’s arrhythmia.

Sriram was offered the latest treatment - **Radio Frequency Ablation**. Under sedation a catheter was inserted through a vein in his groin and threaded to the chambers in his heart. Using radio waves the tissue causing the arrhythmia was destroyed. Just to make sure, the doctors tried provoking the arrhythmia again but he remained stable.

Within a few hours, with a one-time, non-invasive procedure Sriram went from being under threat of sudden death to a carefree student, cured for life!

**Dr. K. J. Prem Kumar**, M.D.D.M. FIEP.,  
Interventional Cardiologist & Electro Physiologist



Article

# When an Aneurysm Blooms...

*All chest pains don't mean a heart attack - some of them can be symptoms of deadly aneurysms*

Professor Raman was enjoying his retirement, by spending time on his new hobby, gardening. Suddenly he felt some pain in the abdomen. He became giddy and started to sweat profusely and before his family could take action, became unresponsive.

"I thought it was a heart attack", said his daughter-in-law who rushed him to a nearby hospital, "but the ECG was normal." Professor Raman regained consciousness, but his blood pressure continued to drop and his abdomen started bulging. In this condition he was rushed to MIOT where a 750 HD CT Scan revealed the cause of his problem - a **leaking Aortic Aneurysm**.

## What are Aortic Aneurysms?

Aortic aneurysms are abnormal dilatations (bulges) of the aortic blood vessel, which carry blood to the body. The bulge can occur either in the chest or in the abdomen. As the aneurysm expands in size they cause discomfort to the patient in the form of chest /abdominal/back pain. Aneurysms can be critical if they burst. This results in heavy bleeding into the chest and abdomen. In fact patients with a ruptured aneurysm have a poor chance of survival. Many of them die before they reach the hospital!

## Aneurysms can be fatal

Traditionally such aneurysms are treated by open surgery where the

Cardio Thoracic surgeon opens the chest or abdomen and replaces the diseased aorta with a new graft. Open surgeries have their own problems and require a long hospital stay.

Professor Raman was fortunate that not only did he reach MIOT in time but he had access to an experienced team consisting of a **Cardio Thoracic Surgeon, Interventional Radiologist and Interventional Cardiologist**.

## A Keyhole Procedure

The team decided on an **Endovascular Stent Graft** to treat the aneurysm. A small groin incision was made and the graft was taken through the femoral artery and placed across the aneurysm to stop the bleeding. The whole procedure was done under anaesthesia in the CATH Lab.

Once the graft is successfully deployed, check angiograms are done. Patients are monitored in ICU for 24 hours. Because it is a minimally invasive procedure, patients recover fast and are back to routine activities within one week.



Aneurysm      Treated with stent graft-Hybrid

Professor Raman was discharged in next 3 days, looking forward happily to his next session of gardening!

**Dr. V.V. Bashi**, M.S, MCH, FIACS, FACS  
Cardio Thoracic Surgeon  
MIOT Centre for Thoracic and Cardiac Care

**Dr. K. Murali**, MD.P.D.C.C.  
Interventional Radiologist

**Dr. E. Satish Kumar**, M.D, DNB (Cardiology)  
Interventional Cardiologist  
MIOT Heart Revive Center



## Doctor's Diary

*New Year. A Happy Beginning!*

*The last day of the earlier year was almost the last day in the life of a precious child.*



December 31, 2008. I was eagerly waiting to celebrate the dawn of the New Year. Just then I got a call from the MIOT Center of Children's Cardiac Care. A newborn's life was in danger.

The mother, Mrs. Malar from Vellore had rejoiced at the birth of her baby girl, after many years of infertility. Her happiness was short-lived - the child was born with the 'Blue baby syndrome'. The pulmonary valve that allows blood flow to the lungs was totally under developed in the baby - there was no oxygenation in the body and the newborn was struggling to breathe.

## Sinking quickly

The baby was rushed to a nearby University Hospital and put on a life saving drug called Prostaglandin. This permits blood supply to the lungs for a short period. Meanwhile the baby developed sepsis, a blood stream infection that posed a high risk for surgery.

So, on the last day of the year, when the efficiency of the drug was reducing and oxygen levels were plummeting to critically low levels, the doctors in MIOT were called in. Still, we were determined that the parents of the little baby girl should have a Happy New Year.

## A Brave Decision

As soon as the ambulance arrived, we rushed the baby to the cardiac Cath Lab for an emergency procedure. A small stent was introduced through a pinhole in the right groin of the baby to permanently open a duct that would allow blood flow to the lungs. This procedure, **Neonatal ductal stenting** is not routinely performed worldwide and is extremely rare in India. Any mistake would prove fatal to the baby. Also, the stenting would have to last long enough for the baby to grow to her next surgery. Would we get it right?

We knew the answer, soon enough. The entire Cath Lab team erupted with joy when oxygen saturations shot up to 95% from critical levels of less than 50%. The baby recovered quickly and was discharged on January 2nd.

Shortly after her first birthday, we implanted a new pulmonary valve in her heart, solving her problem permanently. Yet every six months, when she visits MIOT, we doctors remember that desperate New Year's Eve when we helped her make a heroic bid for life.

**Dr. K. Sivakumar**, MD,DM,DNB  
Paediatric Cardiologist  
MIOT Centre for Children's Cardiac Care

# Laughter, Tea and other Heart Friendly Therapies

*New tips for a healthy heart that you will enjoy...*



It's well known that lifestyle changes such as losing weight, lowering cholesterol and quitting smoking reduce risk factors for heart disease. But did you know that drinking tea and laughing might also be beneficial?

Two factors that most protect against heart disease are high levels of HDL (good cholesterol) and factors that reduce stress, such as laughter.

In fact, a recent study by cardiologists found that people with heart disease were 40 percent less likely to laugh in a variety of situations compared to people of the same age without heart disease. In other words those who laughed more frequently were more heart healthy!

## Reduce Stress with a Good Laugh

So why do stress reduction techniques like laughter reduce the risk of heart disease? To answer that, it helps to know how mental stress can potentially damage your heart.



When you're under a lot of stress there are chemicals that are released that cause blood pressure and the heart rate to go up. This causes platelets to clump together and all of those set up a series of reactions that could enhance the process of plaque formation and development. (Plaque build-up clogs arteries) So people who are under lots of stress all the time are at increased risk even if they don't have a family history of heart disease or if they don't have diabetes.

Conversely, reducing stress, with laughter in particular, can have the opposite effect.

## Laughter prescribed

Laughter is an active process and may have a direct impact on improving the lining of the blood vessels. Reducing stress also benefits the heart by lowering the blood pressure and heart rate.

"The ability to laugh may have important implications in societies such as the U.S. where heart disease remains the number one killer, a

Article

leading cardiologist says. "We know that exercising, not smoking and eating foods low in saturated fat, will reduce the risk of heart disease. Perhaps regular, hearty laughter should be added to the list."

Other stress reduction methods can also help. Stress-reducing methods, including yoga and meditation, may be quite helpful in reducing the risk of coronary events.

## A New Reason to Drink Tea

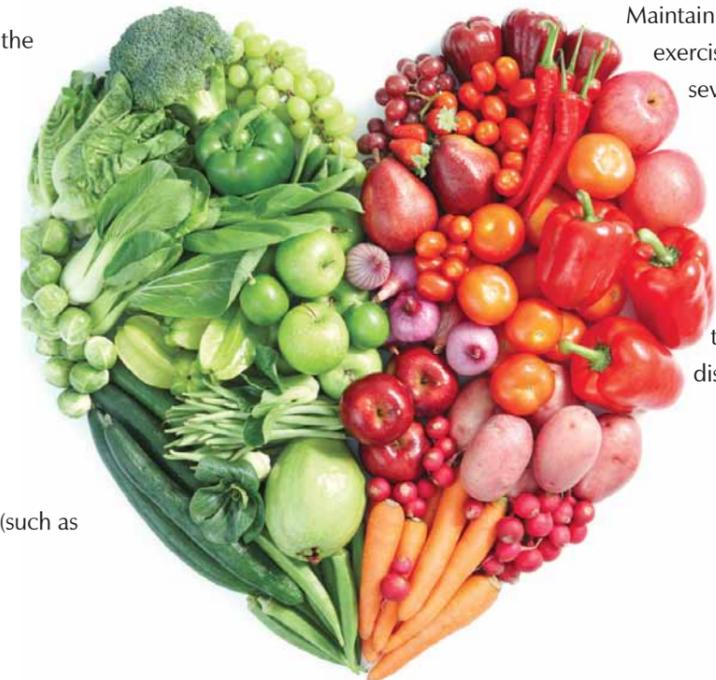
In addition to laughter, drinking tea and eating antioxidant foods can also protect you against heart disease.

In fact, cardiologists at the University of Maryland have concluded that drinking black or green tea (which contain antioxidants) may help reduce a potentially harmful constriction of blood vessels after a high-fat meal. Their study adds to a growing body of research that suggests antioxidant-rich foods (such as

vegetables and fruits) and beverages may help to prevent heart disease.

We're talking about foods that contain anti-oxidants such as fruits and vegetables like tomatoes, which contain lycopene or broccoli that contain other protective antioxidants. Vegetables and fruits have natural antioxidants which are probably going to be more protective than supplements.

If you're going to drink tea, you might want to skip the milk. New research indicates that adding milk to tea negates the health benefits.



## General Prevention Tips

- Eat a heart-healthy diet
- Improve cholesterol levels
- Exercise
- Control diabetes
- Control high blood pressure
- Control weight
- Manage stress
- Quit smoking

The bottom line for prevention is to follow a heart-healthy lifestyle. Maintain an ideal body weight and exercise at least 30 minutes a day, seven days a week.

## Regular Screenings

Screening is also an important way to prevent heart trouble. The earlier you start screening and treating it, the more heart disease you can prevent.

Article

Its **1 a.m.**

You suspect you are having a heart attack.

## What do you need to do?

- a Get to the right centre
- b Get there as fast as you can

### **MIOT** **HEART RE>I<E** **C E N T E R**

- It's the most advanced, comprehensive, dedicated heart care center
- Team of top cardiac specialists available 24X7
- Designed for emergency response:  
Door to balloon in 90 minutes
- Cutting - edge CATH Lab with OCT Imaging system, superior to angiogram
- Wide range of stents make complex procedures possible
- Includes Electro Physiology Labs offering latest treatments for Arrhythmia
- In-house diagnostics including Discovery 750 CT scan
- MIOT's culture of caring which believes in "Putting Patient's First"

Save this number to save your life

MIOT CARDIAC EMERGENCY (24x7):  
**2249 9800, 99413 66699**  
**& 98400 00555**

