

WORLD HEART DAY

29 SEP

USE ♥ TO CONNECT

How can Coronary Angioplasty be made to last longer?



Dr. Madhu Sreedharan, MD, DM, MRCP (UK), FRCP, FACC, FESC, FSCAI, Director, NIMS Heart Foundation

Cardiovascular disease (CVD) is the number one killer in the world with more than 1.87 crore people dying of heart attacks / strokes annually. It occurs due to blocks in the blood vessels supplying the heart muscle (coronary artery). This is due to a process called atherosclerosis which is part of ageing – but is accelerated by underlying diseases like diabetes mellitus, high blood pressure, high cholesterol and by smoking, physical inactivity, obesity etc. Coronary angioplasty (PCI or Percutaneous Coronary Intervention) is a procedure to remove blocks in the heart arteries by means of long catheters inserted

through the blood vessels of the wrist or groin. It is a minimally invasive procedure in which stent is deployed to keep the blood vessels open long term. Angioplasty has come a long way since Andreas Gruentzig did the first PCI in 1977. The Achilles heel of angioplasty remains the recurrence of blocks within the stent – called In Stent Restenosis (ISR) leading to stent failure. It is particularly higher among those who have diabetes and smokers. With the advent of newer stent technology and medicines to reduce restenosis, the incidence of ISR came down from 30% to less than 10%. However, it is still a concern and our aim is to make the angioplasty last longer. These are some of the advances to ensure that your first coronary intervention remains the last one you would need.

FFR (Fractional Flow Reserve) : All blocks in the arteries need not be treated with angioplasty. Those that are greater than 90% stenosis definitely needs to be treated. But the borderline ones (50 – 70% stenosis) are best managed with medicines. FFR is a tool that can objectively identify the significant blocks and leave the not-so-significant ones. Studies have shown that angioplasty guided by FFR reduces the number of stents and increases survival chances.

Intra Vascular Imaging (OCT / IVUS) : Intra vascular imaging with IVUS (Intra Vascular Ultra Sound) or OCT (Optical Coherence Tomog-

raphy) helps clearly assess the vessel, guides the correct choice of the stent, helps identify the morphology of the blocks and identify any complications. Trials have shown that Intra-vascular imaging guided PCI reduces stent failure and mortality. Ideally all PCI should be guided by FFR (so that unnecessary lesions are not stented) and intra-vascular imaging (so that stents are deployed well and lasts longer).

Rotablator / Intra Vascular Lithotripsy (IVL) : As people age, heart arteries calcify. Calcification of blood vessels prevent optimal stent deployment as calcium does not yield to balloons. We have 2 new techniques to treat calcific lesions – Rotablator (which pulverises calcium) & IVL which uses sonic boom to develop cracks in the calcium to enable stent expansion. This technology has made treating patients with calcific lesions safer and better. Thus by using these procedures, we can ensure that even the most complex lesions are treated well by PCI providing long-lasting results for the patients. The downside is the cost of these procedures in addition to that of angioplasty. However, corners should not be cut in more complex procedures and the option of bypass surgery should be considered rather than going ahead with a sub-optimal angioplasty.



COL Rajeve Mannali, Chief Administrative Officer, SUT Hospital Pattom

Cardiovascular diseases remain the world's number one killer causing an estimated figure of 18.6

Relevance of World Heart Day

million deaths a year shadowing even deaths due to the pandemic. The disease is preventable with adoption of healthy lifestyle steps, and hence the relevance of a campaign to create awareness on aspects connected to the disease such as prevention, timely detection, and proper treatment. Observance of September 29 as World Heart Day year after year serves the very purpose of creation of awareness on the need for good dietary habits and adoption of a healthy lifestyle with emphasis on physical exercise. Timely detection of the disease by understand-

ing the warning signals and symptoms is another important aspect that can contribute to saving of lives. The importance of the 'golden hour' in seeking appropriate remedial measure, once symptoms manifest, is another key aspect that the awareness can set in motion. It is also relevant for the common man to have some basic knowledge on the importance of regular periodic health check-up and elementary know-how on the treatment modalities. The wide spread campaigns by the governmental agencies, media, and health-care organisations have

significantly contributed to increased awareness levels in the recent past. Efforts to popularise appropriate lifestyles matching the individual could also help prevent the disease. A combined effort at all levels will go a long way in marginalising this killer disease. The 'World Heart Day' has a great role to play in this. The impact of COVID on an existing heart condition and also the possibility of problems arising in future for those with none, could also be brought out in the public domain so that the population remains adequately prepared.

Free cardiovascular health camp at NIMS Medicity

In connection with World Heart Day, NIMS Medicity is conducting a free cardiovascular health camp on September 29. First 300 registrations for the camp will be offered ECG, BP and GRBS tests free of cost, and for first 100 registrations, eco test will be given free. Free angiograms will be provided to 50 patients attending the camp and free surgeries will be performed on selected indigent patients. The camp will be led by Dr. Madhu Sreedhar, Director, NIMS Heart Foundation. Doctors Mahadevan, Asher Ennis Nayagam, and Kiran Gopinath will also be in the team. To register call 9388243399 or 9447247772

SK HOSPITAL FOR HEALTHY HEART

A bit of care can help

The menace of cardiovascular diseases (CVD) looms large globally. Heart disease and stroke, the world's leading causes of death, snuff out over 18 million lives a year. Advances in CVD treatment is being made available to the needy more and more but what is required is to bring down the number of people at risk of developing CVDs. The adage 'Prevention is better than cure' fits the scenario perfectly.

The purpose of having a campaign like World Heart Day is to make people aware of the magnitude of this menace, highlight the causes, and stress on the prevention.

History: World Heart Day was first observed in the year 1999. The idea of celebrating the day was conceived by Antoni Baye de Luna, former president of the World Heart Federation. Till 2011, the day was observed on the last Sunday of September but from 2012, it is observed on September 29.

Activities: World Heart Day is a global campaign in which individuals, families, communities, governmental, and non-governmental agencies stress on replacement of heart-unhealthy activities such as tobacco use, erratic dietary patterns and physical inactivity with healthy food habits and regular exercise.

Regular screening for potential risk factors are just as important. The activities are aimed at making the public aware that by making these simple changes, at least 80% of premature deaths could be avoided.

Primary, Secondary and Primordial prevention: Most often, secondary prevention is practised on a person who already has a heart condition. Primary prevention is aimed at preventing even the first occurrence of heart disease. But primordial prevention is more impactful and is about ensuring that even risk factors do not develop. Whether it is primary, secondary or primordial prevention, the five key components are total avoidance of smoking, regular physical activity and exercise, healthy dietary habits, adequate rest and relaxation, and screening.

Theme: This year, the theme is 'Use your heart to connect'. Harnessing the power of the digital to improve awareness, prevention, and management of CVD globally is the goal of World Heart Day 2021.

Dr. K. Suresh, Dr. Arshad M., Dr. Saritha S. Nair, Dr. Harihara Subramonia Sharma T.S. Department of Cardiology, SK Hospital, Trivandrum

New Treatment Revolution in Cardiology



Dr. Praveen S.V., Senior Consultant Cardiologist, KIMSHEALTH

Interventional cardiology is a section of medical science where the patient is treated through a minimally invasive procedure without requiring surgery.

FFR (Fractional Flow Reserve) If an angiogram test finds out 70% or more block, the practice is to go for angioplasty. The FFR comes up as a novel way when a medical guide wire is let into the arteries to gauge the blood flow pressure.

IVUS (Intravascular Ultrasound) Cardiac ultrasound is a medical imaging process done with a special catheter with a probe at the end. It gives an idea of the radius of the arteries, the thickness of the block, thus helping in

precise angioplasty.

OCT (Optical Coherence Tomography) Optical Coherence Tomography (OCT) is a diagnostic method used during cardiac catheterisation. Infrared light is employed in OCT, helping better view of the arteries and the extent of blocks, blood-clot, cracks in arteries, the width of arteries, and the exactness of the stent inserted.

IVL (Intravascular Lithotripsy) Accumulation of calcium makes blocks seem like stones. Complicated cases require their breaking and for this, intravascular lithotripsy could be used. Interventional cardiology has brought in key changes in treating valves with malfunction by a method similar to angioplasty without leaving any scar. The recovery is also quicker. The biggest example of such a procedure is TAVI (Trans-catheter Aortic Valve Implantation).

TAVR (Trans-catheter

Aortic Valve Replacement) Non-surgical treatment is today advanced for treatments such as replacement of the aortic valves and others such as the tricuspid valve, mitral valve, and the pulmonary valve. Such minimally invasive methods require no medicine for blood-clot. TAVI will help overcome complications when a heart valve is being changed twice.

Percutaneous Device Closure There are heart patients with problems such as holes in the heart, ventricular septal defect, and atrial septal defect. Many of them can today avoid surgery-less angioplasty, where a button-like device will plug the holes. Irregular heart beats can lead to clot in the left atrial appendage resulting in stroke. This can be averted through the method of left atrial appendage occlusion. So, cardiology today is mostly about minimally invasive methods.

WORLD HEART DAY 29 SEP

HAVE A HEART FOR YOUR HEART

Today, on **World Heart Day**, let's promise ourselves to take better care of our and our loved ones' heart. Let's treat the most hardworking organ in our body a little more kindly, by building healthy habits.

Check your cholesterol, blood sugar and blood pressure levels regularly
Exercise daily
If you're overweight, make changes to your diet and level of physical activity in order to lose weight
Quit smoking

KIMSHEALTH DEPARTMENT OF CARDIAC SCIENCES 0471 2941000

Reg. Office : P B No. 1, Anayara P.O., Trivandrum - 695 029
T : +91 471 2941000, 2941400 | E : relations@kimshealth.org | www.kimshealth.org
INDIA: Trivandrum | Kollam | Kottayam | Perinthalmanna
MIDDLE EAST: Bahrain | Oman | Saudi Arabia | Qatar | UAE

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WORLD HEART DAY 29 SEPTEMBER 2021

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HARNESSING THE POWER OF DIGITAL HEALTH TO IMPROVE AWARENESS, PREVENTION & MANAGEMENT OF CVD GLOBALLY

ANANTHAPURI HOSPITAL'S TELE-CONSULTATION : 0471 6609900, +91 8281368691

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CHACKA, NH BYPASS, THIRUVANANTHAPURAM - 695024, KERALA
E-mail : ahri@ahri.in
PH : 0471 2579900, 6609900