

Prevention and Early Detection of Heart disease

Time and again, we keep hearing about the premature death of some of the popular actors and sportsmen. Obviously, money is not equivalent to health. Similarly present day master health checkups have not added much to the outcome. So the focus should be directed towards earlier detection (even before it shows up on a treadmill test), and aggressive lifestyle measures.

What we get to see as heart attack is unfortunately is just the tip of the iceberg. There are more waiting to erupt like volcanos. Can we identify who is at risk and favorably modify the risk?

First let's see what heart attack means and how it happens.

Heart attack basically means sudden and complete or near complete blockage of one of the blood vessels supplying the heart (fig. 1).

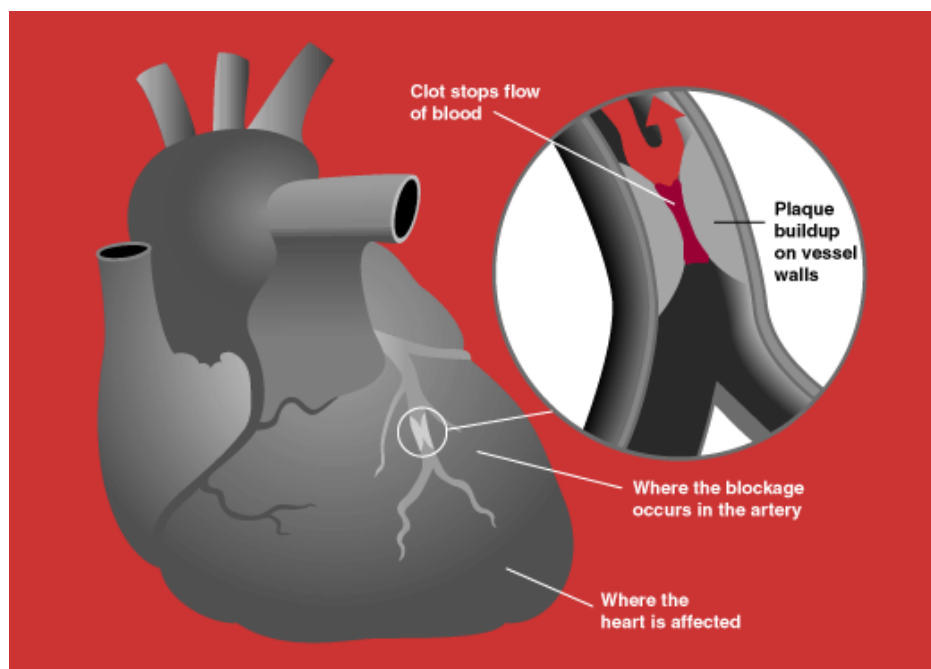


Fig. 1: Blockage of one of the blood vessels supplying blood to the heart

So where and when do these blockages develop? What are these blockages (plaques) (fig. 2)?

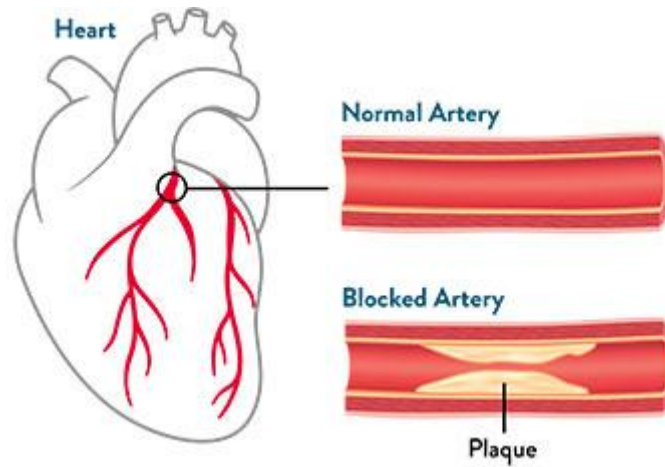


Fig. 2: Picture showing a normal and atherosclerotic plaque in blood vessel

The blockages have their beginning in the first or second decade of life and progress over decades before culminating in heart attack (Fig. 3 & 4). These blockages are simply fatty substances getting deposited initially in the inner lining of blood vessels.

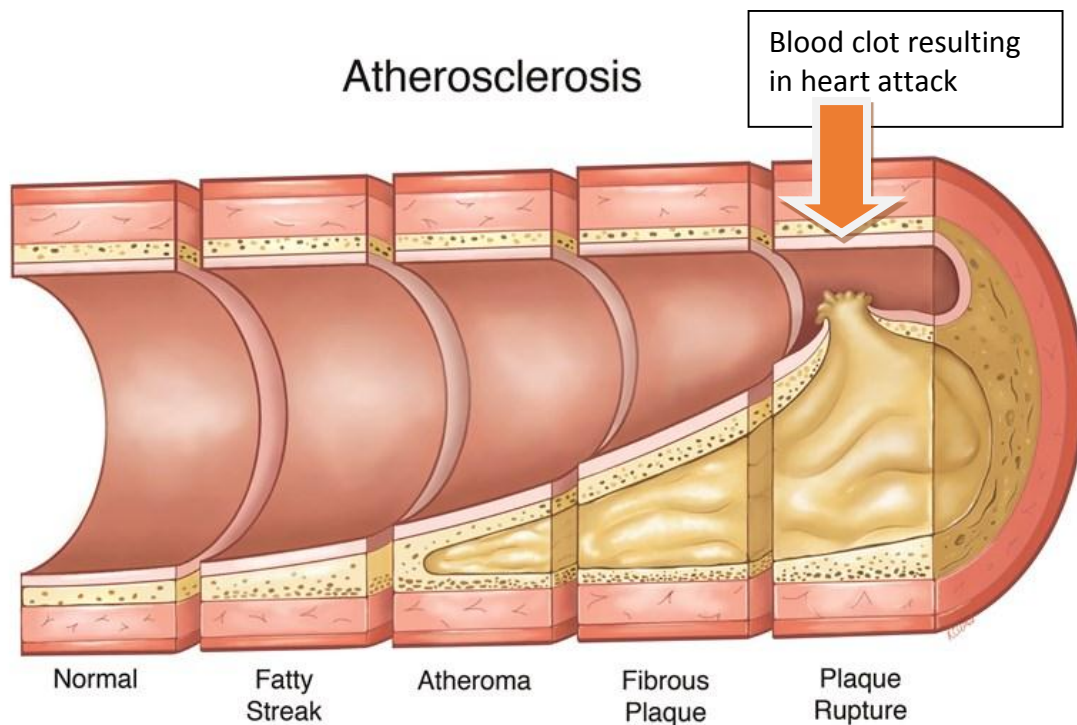


Fig. 3: Development of plaque over decades

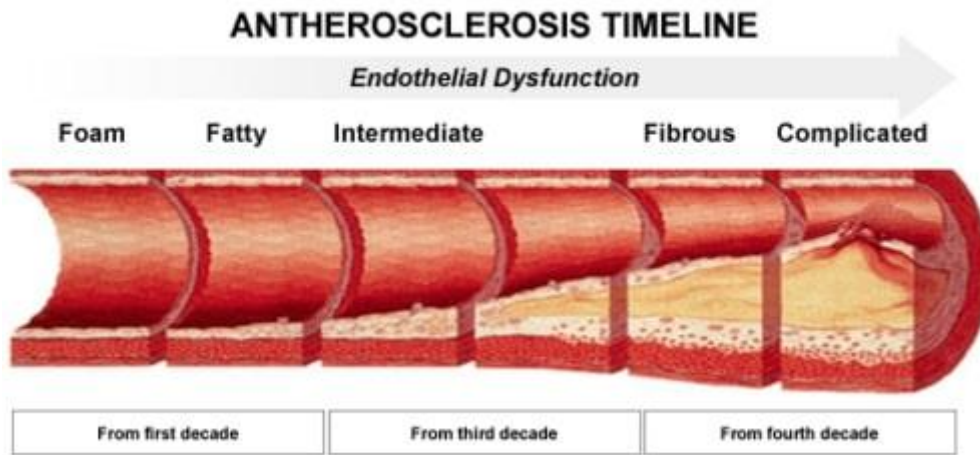


Fig. 4: Endothelial damage resulting from plaque rupture

The commonly performed TMT in master health checkups and Insurance health checkups identify the plaques when they have significantly blocked the blood vessels of the heart (fig. 5).

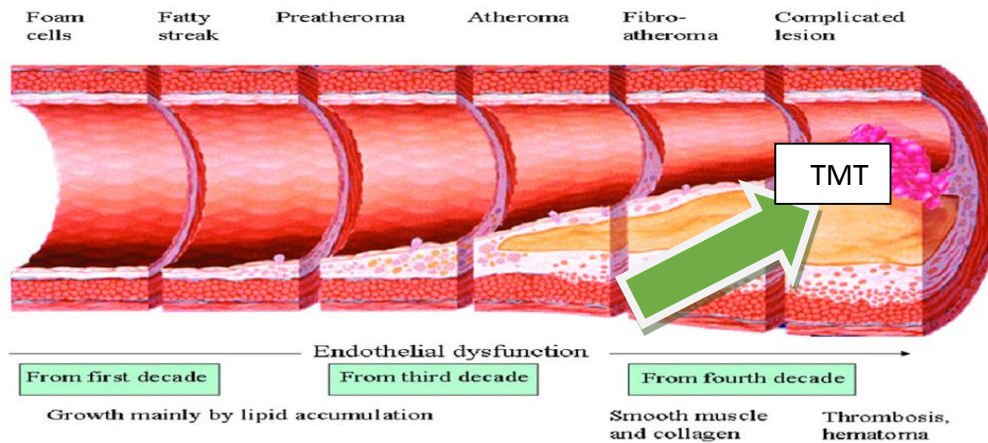


Fig. 5: Timeline for plaque identification by a treadmill test

How to identify the plaques earlier?

By finding the calcium score on a CT scan (fig. 6)

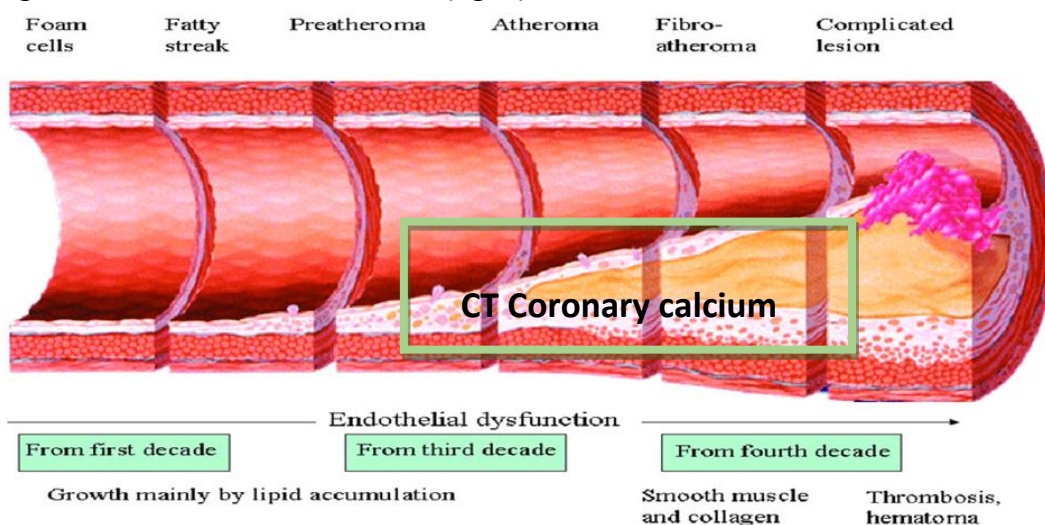


Fig. 6: Timeline for plaque identification by coronary calcium test.

This is closer to reality . These plaques can get deposited in other blood vessels of the body like in the blood vessels supplying the brain and legs which can be measured by simple methods namely Carotid Intimal Medial Thickness and Ankle Brachial Index.

Why do these fatty materials get inside the walls of blood vessels instead of travelling in the blood and who are prone for these plaques?

We have all along been told that people with high blood pressure, high sugar, high levels of bad cholesterol, smokers, obesity and genetic background (the scary six) are the ones who get into problems. While the above statement is true, even people without these factors also often develop serious heart issues. This is because of something called Endothelial Dysfunction. The above six also affect the heart through Endothelial Dysfunction only. So that's the first step in the beginning of the plaque buildup. Things don't stop there, every step in the progression of the plaque and its culmination into heart attack is mediated through this Endothelial Dysfunction.

What's this Endothelium?

Endothelium is the innermost lining of our blood vessels which is somehow completely ignored by all of us (fig. 7).

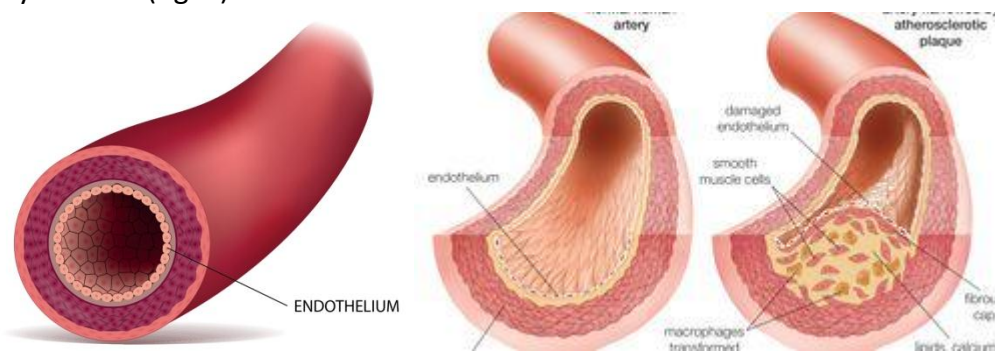


Fig. 7: Normal and damaged endothelium

Every time the endothelium gets injured, the cholesterol gets inside the wall and starts building up. And yes this happens irrespective of our cholesterol levels.

So what injures the Endothelium?

The scary six unquestionably. But then it's not the complete list. Our food plays a major role in keeping the endothelium intact apart from exercise, yoga, stress reduction, good sleep and social connectivity.

Can we estimate our endothelial function?

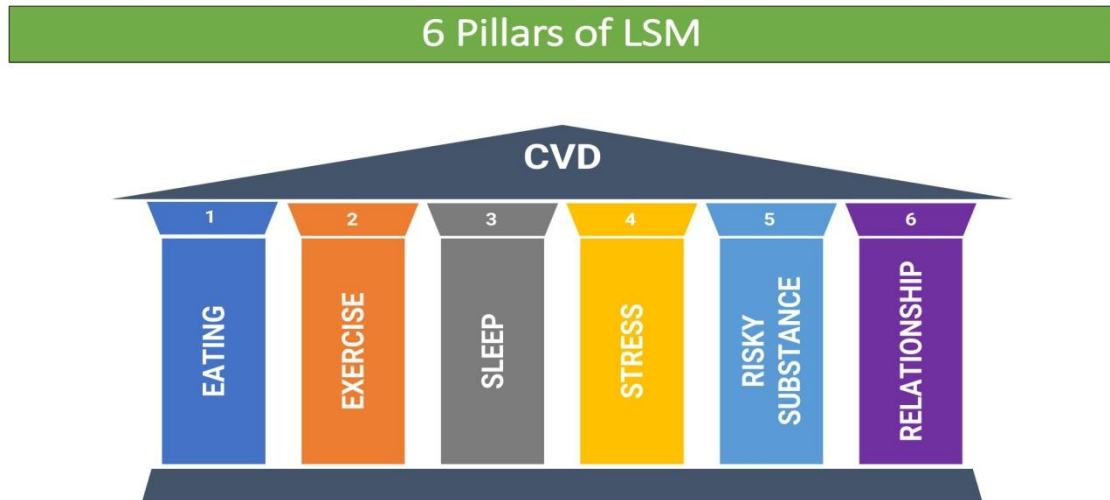
Yes; it's easily measurable.

Can we modify endothelial function?

Yes. Focusing on Lifestyle modification and if needed drugs can help us modify the endothelial function favorably.

What are the lifestyle measures?

Broadly we focus on the Six Pillars of Lifestyle Medicine (LSM) as shown in the picture.



*Cardiovascular Diseases (CVD)

Where can I get these investigations done? Where can I learn lifestyle measures needed to lead a healthy life?

Visit our "PEARL CLINIC" ("Prevention and **EARLY** detection of Cardiovascular diseases and other Lifestyle diseases by **Novel** and Integrated methods and **Continued** care").

What other investigations are done in "PEARL CLINIC"?

- ABI measurement
- CIMT
- Pulse Wave Velocity
- Endothelial assessment
- Cardio Pulmonary Exercise Test

These investigations are non invasive and early predictors of heart disease

Other than these investigations, do you focus on anything else?

- Diet: Complete nutritional assessment and Individualized diet prescription.
- Physiotherapy: Exclusive fitness evaluation and specialized exercise prescription.
- Psychology: Mindfulness and stress management
- Yoga: Heart healthy yoga and pranayama

Focus is on Integrated Care with individual attention

Why @ PSG PEARL CLINIC?

- Multidisciplinary team
- Holistic approach
- Robust assessment
- Personalized care and follow-up

For whom?

Anyone with,

- ✓ High blood pressure
- ✓ High cholesterol
- ✓ Family history of heart diseases
- ✓ Overweight or obesity
- ✓ Pre-diabetes or diabetes
- ✓ Smokers and tobacco chewers
- ✓ Past history of Pregnancy Induced Hypertension, diabetes
- ✓ Sedentary lifestyle

Choose our budget friendly package:

- Basic package @5,800
- Comprehensive package @8,400
- Premium @12,700

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