

VARIOUS DIAGNOSTIC TESTS IN HEART DISEASE

Dr. Pramod Prakash Kanap¹

Assistant Professor Department of Kriya Sharir

Dr. Shital Anil Raskar²

Assistant Professor Department of Rasashastr & Bhashjya Kalpana

Hon. Shree. Annasaheb Dange Ayurved Medical College, Ashta Tal: Walva Dist: Sangli

ABSTRACT:

There are an increasing number and type of cardiac tests used to help stratify patients through to be at risk for symptomatic coronary artery disease, specifically for short term complications such as myocardial infarction. Due to changes in the clinical practice , emergency healthcare providers are ordering these tests and using the results for clinical decision making. Various new tests are constantly being developed to further the understanding of diseases, injury and congenital or acquired abnormalities of the Heart. For diagnosis of heart disease various tests are available, like- ECG, Stress test, Echocardiogram, cardiac Ct scan, MRI, angiography, Lipid profile test, Homocysteine, blood pressure etc can used for diagnosis of heart diseases. These are just few of the tests that have been used to diagnose heart and blood vessel disease.

Keywords: *ECG, Cardiac CT scan, MRI, Lipid Profile, Coronary angiogram*

Discussion in Review of Literature-

Various diagnostic Test-

1. **Electrophysiology**
2. **Medical Imaging**
3. **Laboratory Test/ blood tests for heart disease**
4. **Bedside physical Examination**

a) **Electrophysiology-**

1. Electrocardiogram (ECG)-

This test records the electrical activity of the heart; show abnormal rhythms (arrhythmias) and some time detect heart muscle damage. ^[1]

2. STRESS Test (Treadmill or Exercise ECG)-

This test is done to monitor the heart while you walk on treadmill. Your doctors also monitor your breathing and blood pressure. A stress test may be used to detect coronary artery diseases, or to determine safe levels of exercise after heart attack or heart surgery.

b) **Medical Imaging-**

3. Echocardiogram (Echo)-

Echo is a noninvasive test that uses sound wave to evaluate your heart chambers and valves as well as its pumping function. The echo sound waves create an image on the monitor as an ultrasound probe is pass across the skin over heart. ^[1]

4. Positron emission tomography scan (PET)-

This is a nuclear scan that gives information about the flow of blood through the coronary arteries to the heart muscle.

5. Resting SPECT thallium scan or Myocardial perfusion Scan-

A nuclear scan is done while you exercising. It is done to view areas of the heart muscle that are not getting enough blood during activity. ^{[1][2]}

6. Resting gated blood pool scan (RGBPS) or Resting Radionuclide angiography-
A nuclear scan to evaluate how well the heart wall moves and how much blood is pumped with each heartbeat, while you rest.

7. Cardiac catheterization (coronary angiogram)-
For this test doctor guide small catheter through the large artery in upper leg or some time arm into the heart. Dye is given through the catheter and moving x-ray pictures are made as the dye travel through the heart.
This test shows- narrowing in the arteries, heart chamber size, pumping action of heart, valves open and close action, measurement of pressure within the heart chambers and arteries. ^{[1][2]}

8. Magnetic resonance imaging of the Heart (MRI)-
This procedure uses a combination of large magnets, radiofrequencies and computer to make detail images of organs and structures of the body.
MRI of Heart is used to evaluate the heart valves and major vessels, detect coronary artery diseases, evaluate congenital defect, detect the tumor and other abnormalities.
This test may do before other procedures such as angioplasty, stenting of coronary arteries and heart surgeries. ^[1]

9. Cardiac CT scan-
This imaging procedure uses an X-ray machine and computer to create 3 dimensional pictures of the Heart. Sometimes dye is injected into vein so the arteries of heart can be seen as well. ^[1]

10. Myocardial Biopsy-
A myocardial biopsy is when a doctor uses a special catheter to remove a piece of heart tissue for examination. ^[2]

c) Laboratory Test/ blood tests for heart disease-

a) Lipid Profile-

The lipid profile includes- Total cholesterol, LDL- low density lipoprotein, HDL- High density lipoprotein, Triglycerides.

b) Lipoprotein (a), or Lp (a)-

Lipoprotein (a) is a special type of lipid containing protein. Your genes, not diet or exercise, play the main role in determining of level of Lp (a)

c) C-reative Protein (CRP)-

Liver produces C-reactive protein (CRP) as part of your body response to injury or infection. Inflammations play a central role in the process of atherosclerosis, in which fatty deposits clog your arteries.

CRP test results combined with other blood test results and risk factors for heart disease.

d) Homocysteine-

Body uses homocysteine to make protein and to build and maintain tissue. However, too much homocysteine may increase your risk of heart diseases and stroke.

Homocysteine is usually ordered for people who have high risk for developing heart disease or have a known history of heart disease.

It is also used for people with a family history of heart disease but no other known risk factor. [3]

d) Bedside physical Examination-

11. Auscultation-

Auscultation employs a stethoscope to more easily hear various normal sounds, such as normal heart beat sounds and the usual heart beat sound changes associated with breathing versus heart murmurs. [4]

12. Blood Pressure-

Blood pressure is shown as two numbers-

- a) Systolic pressure- when heart is beating. Normal value is 120 mm of Hg.
- b) Diastolic pressure- between heartbeats. Normal value is 80 mm of Hg. ^[4]

CONCLUSION:

The diagnostic tests in cardiology are methods of identifying heart conditions associated with healthy vs. unhealthy pathologic heart function. Cardiovascular Diseases (CVD) are the most common cause of death globally accounting for 30% of deaths. Cardiovascular diseases frequently have no symptoms or may cause chest pain or shortness of breath. Diagnosis of heart disease is often done by the taking of medical history, listening of heart sound with stethoscope, ECG, echo, angiography, MRI, Lipid test. So all these test are very useful for diagnosis several of Cardiovascular or Heart Diseases.

REFERENCES:

1. <http://www.mayoclinic.org/diseases-conditions/heart-disease/basics/tests-diagnosis>
2. <http://www.hopkinsmedicine.org/healthlibrary/conditions/cardiovascular-diseases>
3. <http://www.m.webmd.com/heart-disease/guide/heart-disease-diagnosis-tests>
4. <http://www.rightdiagnosis.com/symptoms/tests>
5. <http://www.emedicine.medscape.com/article/811577-overview>