

# Angina Pectoris - Investigations and therapy

Pages with reference to book, From 164 To 166

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A sense of Strangling anxiety - a painful and most disagreeable sensation in the chest, is the description given by Heberden for angina pectoris<sup>1</sup>, which is a symptom of an underlying disease that has to be determined. The initial history, physical examination, electrocardiogram and simple laboratory tests will provide a clue to the cause which may be atherosclerotic coronary artery disease, non-atherosclerotic coronary artery disease, valvular heart disease, hypertrophic cardiomyopathy or hypertension.

The therapy for chronic stable angina can be initiated without delay. This includes control of hypertension, discontinuation of cigarette smoking and the use of either nitrates, beta adrenergic blockers or a calcium channel blocking agent. If mild or moderate symptoms still persist in the elderly patients who have a contraindication to by-pass surgery then no further tests are performed. Medical therapy is adjusted according to the need and continued. In other cases an exercise stress is undertaken to identify the high risk and low risk patients<sup>2</sup>. Patients having a heart rate of less than 160 per minute with no changes in the electrocardiogram have a good prognosis<sup>3</sup>. Whereas cases having an onset of ischaemic changes in the electrocardiogram within three minutes of exercise, persistence of S-I depression after exercise, widespread ischaemic changes in the electrocardiogram, S-T segment depression of 2mm or more and hypotension have a poor prognosis<sup>4</sup>. These abnormalities indicate a left main or three vessel coronary artery disease<sup>5</sup> -Radionuclide imaging helps to improve the results of the exercise, tolerance test in the presence of abnormalities in the resting electrocardiogram as left ventricular hypertrophy, WPW syndrome, left bundle branch block and digoxin therapy.<sup>6,7,8,9</sup>

Patients with a good prognosis or those with ischaemic changes in the electrocardiogram during the exercise test, but having no criteria of a left main or three vessel disease, should continue with the medical therapy. Patients having a poor prognosis should be subjected to cardiac catheterization and angiography. If left main coronary disease is present then coronary by-pass surgery is not favourable. In patients with three vessel disease with left ventricular dysfunction, surgery is again preferable. In one or two vessel disease medical therapy is continued. Coronary angioplasty may be considered in this group of patients to improve the quality of life. Chronic angina with disabling symptoms inspite of intensive medical therapy, is a positive indication to coronary angioplasty or by-pass surgery.

Unstable angina cases require intensive medical therapy in hospital along with treatment of any of the precipitating factors if present. Most of them have a satisfactory response to medication. Those having refractory symptoms should be subjected to cardiac catheterization and those found to have marked coronary artery disease should undergo early coronary by-pass surgery. Patients with variant angina or Prinzmetal angina should be investigated with a Holter monitor. If a positive finding is not obtained then cardiac catheterization is performed. If coronary stenosis is not demonstrated then vasospasm is provoked by Ergonovine infusion<sup>10</sup>. This should be performed with great caution as prolonged coronary spasm can lead to myocardial infarction. The spasm can be reversed by intracoronary injection of nitroglycerin. To arrive at a definite conclusion, nitrates and calcium blocking agents should be discontinued 12 to 24 hours before catheterization.

In variant angina, nitrates and calcium blocking agents usually control the symptoms very effectively<sup>11</sup>. But in patients having a fixed obstructive component, beta adrenergic blockers may have to be added. In case disabling symptoms persist, the patient should be re-assessed for coronary artery by-pass surgery or coronary angioplasty.

The evaluation of a patient with angina pectoris is necessary to make a decision regarding the mode of

treatment medical or surgical.

## References

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