

# Preventing the second attack

By Prof. Mohammad Ishaq

ring one  
ier is bad  
ugh, but  
ng for  
econd  
rt attack can  
oly be the  
ce of  
ignorant

Health  
Dawar  
25-1-04

**H**EART attack (Acute Myocardial Infarction) has become a common disease in our society. It also remains the number one killer of mankind worldwide. The significance of the heart is the sudden occurrence of death and death occurring at a young age. When you are most loved by the family in particular in a society at large.

There is a consensus feeling among doctors that the disease has increased manifold in its severity and frequency in the Pakistani nation, urban in particular in the past three decades. It is estimated that with the kind of lifestyles prevailing it is bound to rise further in the years to come.

A heart attack is a serious emergency and more than one-third die before reaching the hospital. Of the two-third victims reaching the hospital, another 20 per cent die either at the emergency department, coronary care unit or wards. It is the remaining 10 per cent patients who survive heart attack and go home on their feet. Their survival, besides Allah's will, and fate, is due to timely care and treatment they receive while in the hospital.

Nevertheless, the good point is due to the tremendous developments in medical sciences, particularly because of heart attacks in the developed countries. The risks and complications attached to heart disease do not end with the discharge of the patients from hospital. Many patients are predisposed

to poverty and ignorance, following a successful hospital course a vast number of these patients are lost or develop serious complications because they do not follow any rehabilitation scheme following their heart attacks.

**THE BASIC COMPONENTS OF EARLY REHABILITATION:** Immediately following the heart attack, the following steps should be taken:

- \* Patient is encouraged to resume his physical activities gradually.

- \* Adopt a healthy heart diet.

- \* Stay on medicine prescribed at the time of discharge.

- \* Avoid travel, sexual activity and climbing stairs.

- \* Follow other instruction by his physician and attend for follow-up visits.

**RISK FACTOR MODIFICATION:** The exact cause of heart attacks is not yet known. Epidemiological studies have identified several factors popularly known as the risk factors that are associated with increase incidence of heart attacks.

Whereas some of the risk factors like male sex, age, personality type and heredity cannot be modified (changed) others as below can be modified and are known as modifiable risk factors. Patients have to modify these risk factors to avoid future cardiac events.

**SMOKING:** This is a very strong risk factor and very common in our society. One must stop smoking or consuming tobacco by other means like pan etc. Every effort must be made to quit smoking. It needs patient's will and the physician's firm advice.

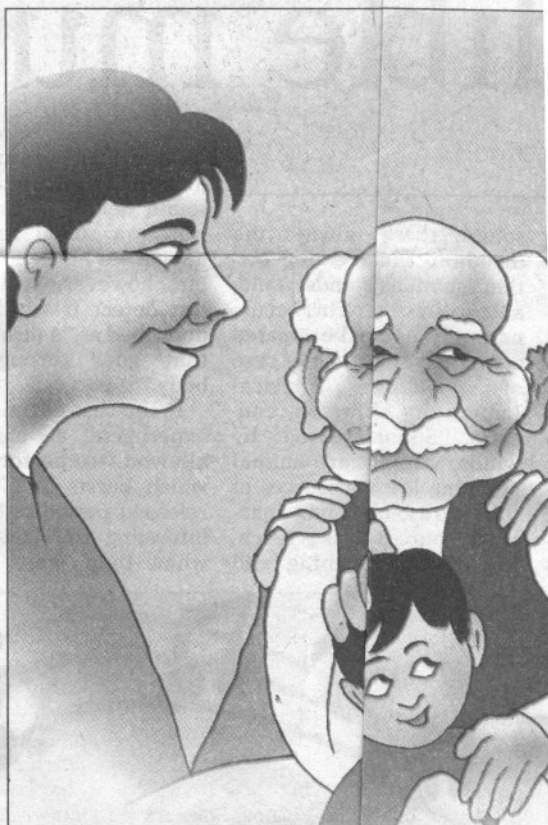
**WEIGHT:** People who are overweight should reduce weight gradually by dietary means and exercise. Weight reduction should be gradual and not dramatic. No medicines are required. One

spouse) and the physician. Serious complications including future heart attacks can be reduced by adequate diabetic control.

**SEDENTARY LIFE STYLE:** Lack of physical exercise is another risk factor for heart attacks which can be altered. The concept of walking is fast vanishing not only in cities but even in the rural settings. Following one or more heart attacks, it is very important to indulge in simple exercises like walking etc. Walking is perhaps the most feasible, and cost effective form of exercise and the patient should make it a daily ritual.

**PERSONALITY TYPE:** Whereas the personality type is a genetic phenomenon, measurement can be taken to limit the adverse effect of one's attitude towards material life. One has to limit his ambitions and material goals in order to

perhaps  
renew  
medical  
effects  
beta  
drugs  
antioxi  
FUT  
Routin  
lipid ar  
and ur  
during  
Once th  
convale  
speciali  
EXEL  
(E.T.T):  
test to  
of the  
form a  
medical  
as "low  
less cha  
therefor  
tests. A  
medical  
follow-u  
Those



tal. These patients are predisposed to further attacks, sudden death and other serious complications in the days and months to come. Therefore it is very important to ensure that the survival attained in the hospital is maintained and the risks and complications reduced to a minimum in the future.

Depending upon the severity of the heart attack and the damage sustained by the heart muscle, a four to six week period is required for the immediate rehabilitation.

This period is known as the recovery or convalescence period. This is a very important phase in the natural history of this disease during which the patient gradually resumes physical activity, reconciles with the new situation, makes efforts to change his lifestyle and plans for future. This whole process requires integrated efforts by the patient, his or her attendant's (family), employer and the supervising physician. The husband or the wife, as the case may be play a vital role in this regard.

Unfortunately due to illiteracy,

should aim for acceptable rather than ideal weight.

**HIGH BLOOD PRESSURE:** Blood pressure should be kept at satisfactory levels with regular medications and other means like dietary modification and exercise as suggested by the physician. By keeping the BP at normal levels risks of stroke and heart attacks can be reduced to a great extent.

**HIGH BLOOD CHOLESTEROL:** High blood cholesterol has been shown to have a very profound effect on the development of heart diseases. Therefore blood cholesterol needs to be checked after heart attack and if found elevated should be brought to safe limits. For the purpose, a good number of patients may have to be placed on cholesterol lowering drugs with regular monitoring.

**DIABETES MELLITUS:** About 30 per cent of patients suffering from heart attacks also suffer from diabetes mellitus. Diabetic control needs comprehensive efforts by the patient, his family (specially

harmony between his needs and means. Religious teaching provides excellent guidelines and solutions to most of our day-to-day problems

However, after a heart attack, the drug treatment has three objectives.

**RELIEF OF SYMPTOMS:** Like chest pain (angina), shortness of breath etc.

**TREATMENT OF ASSOCIATED CONDITION:** Like high blood pressure, diabetes, high blood cholesterol etc.

**SECONDARY PREVENTION THROUGH PHARMACOLOGICAL MEANS:** There are some pharmacological agents that have been found to reduce the chances of future heart attacks and related complications like sudden death. Most of these medicines are to be taken life long, unless there is a contraindication.

The most important medicine in this regard is aspirin which the patient has to take for the rest of his life. This cheap medicine is per-

# the ck

haps the most important deterrence against future attacks. Other medicines which have beneficial effects after heart attack include beta blockers, cholesterol lowering drugs (statins) ACE inhibitors and antioxidants (omega fish oil) etc.

**FUTURE INVESTIGATIONS:** Routine basic tests like x-ray, chest, lipid and sugar profile, blood count and urine exam are usually done during the course of hospital stay. Once the patient has completed his convalescence, he undergoes some specialized cardiac tests as below.

**EXERCISE TOLERANCE TEST (E.T.T):** This is the most important test to determine the future status of the patient. Patients who perform a satisfactory test (known medically as negative) are grouped as "low risk category". They have less chances of future attacks and therefore do not require further tests. All they need is to stay on medical treatment and attend for follow-up.

Those who have unsatisfactory

longed convalescence, additional medicines and they usually have poor outcome.

On the other hand, a patient with good pump function have good prognosis, they have less complications and disability. A satisfactory ejection fraction after heart attack is taken around over 40 per cent.

**CORONARY ANGIOGRAPHY:** Those patients who have a positive ETT after heart attack should ideally undergo coronary angiography. This somewhat sophisticated test requires expensive equipment and expertise, and determines the future course of action. Based on the distribution, extent and location of the disease in the arteries of the heart, the physician decides whether the patient should stay on medical treatment alone or he needs to be operated (open heart surgery) or will he benefit from interventional procedure in the form of balloon angioplasty, with or without stent implantation.

Appropriate selection of the test and its appropriate timing are crucial issues to avoid unnecessary procedures and not to miss a potential candidate. But the notion existing in the community that every person undergoing coronary angiography will need surgery, needs clarification.

Coronary angiography is a diagnostic test, every patient of heart attack does not need this and every person undergoing CA will not need surgery.

To summarize the treatment of heart attack does not end at the hospital. But it is a continuous care which will ensure safe future free of complications and events, particularly "sudden death". For this purpose a proper follow-up and rehabilitation programme is required. This needs integrated efforts by the physician, patient and the family.

Keeping in view the socio-economic realities of Pakistan it is the responsibility of the medical profession to devise feasible cost-effective rehabilitation programme and investigation

protocol for our patients.

Patient education is the key issue. There is a need for the development of national guidelines to be implemented at all teaching and district hospitals.

**FINAL REHABILITATION:** This means eventual return of the patient to full or near full physical and work activity.

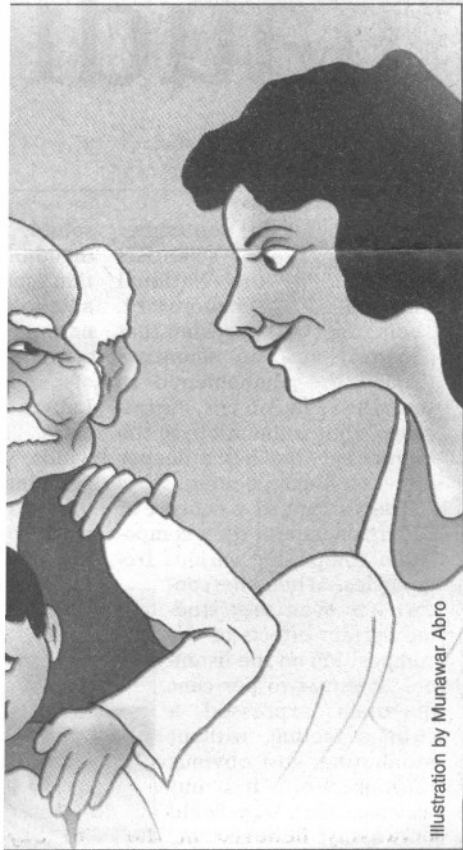


Illustration by Munawar Abro

result (known as positive) are grouped as "high risk category" they have high likelihood of future attacks and complications. These patients need further investigations like, ETT, thallium scanning and coronary angiography. Timing of the test after heart attack depends upon the hospital policy and available resources. It can be

result (known as positive) are grouped as "high risk category" they have high likelihood of future attacks and complications. These patients need further investigations like, ETT, thalium scanning and coronary angiography. Timing of the test after heart attack depends upon the hospital policy and available resources. It can be done as early by 3-5 days or it may be done after 3-4 weeks. ETT is perhaps the most cost effective and informative test. Fortunately it is now widely available.

**ECHO CARDIOGRAPHY:** This simple ultra-sound examination of the heart can be done any time *after the heart attack*. It gives an idea of the extent of the damage received to the heart muscle (the pump). Further it can also tell us about the size of the heart, state of its valves and the presence or absence of any clot within the heart chamber. Patients with severe heart muscle damage (severe pump dysfunction) pro-

gramme and investigation protocol for our patients.

Patient education is the key issue. There is a need for the development of national guidelines to be implemented at all teaching and district hospitals.

**FINAL REHABILITATION:** This means eventual return of the patient to full or near full physical and work activity.

This takes place after the patient's eventual status has been determined through investigations and appropriate medical, surgical or interventional treatment have been accomplished.

The patients should be symptom free before resuming his work. The *objective of final rehabilitation* is to ensure that the victim of heart attack has returned to his occupation and remains a productive member of the society.

With the exceptions of few occupations, nearly all the patients can hope to return to their previous occupations and enjoy the normal life. ■