

## Editorial

## Coronary Thrombolysis: Has Time Arrived For Us To Join The Bandwagon?

*It is established beyond all reasonable doubt that a coronary thrombosis on an underlying atherosclerotic narrowing is the pathology found in over 90% of acute myocardial infarctions (AMI). It has also been recently proven, by coronary arteriography during AMI, that intracoronary or intravenous delivery of one of the many thrombolytic agents can dissolve the intracoronary thrombus in the vast majority of cases. However, what has also become apparent is that the best salvage is achieved if this can be done within one or two hours of the onset of the discomfort accompanying the AMI. There is very little salvage after four hours and almost none after six hours. There is, in brief, a race against time in this mode of treatment.*

*The next logical question would be whether it is all cut and dry and thrombolysis is now an accepted first line treatment in the management of AMI? There are many considerations here that will have to be looked into before we can say "Yeah" or "Nay" as far as Pakistan is concerned. We are still learning the epidemiology of AMI in our country. We know that it is a common problem in our urban communities but we do not have exact numbers. We have no idea at all about our rural areas where the majority of Pakistanis live. We have to know what percentage of our AMI patients can reach in less than four hours of the start of their chest discomfort and if we can improve on this figure. We must be very aware of the differences amongst various thrombolytic agents and the problems associated with thrombolysis and the means to manage these iatrogenic complications. We must be aware of the cascade set in motion once we interfere with the natural history of AMI and the logistics to deal with the problems arising from the new course of the unnatural history of AMI. Finally, we must be acutely aware of the cost-effectiveness of this method of treatment, not just the thrombolysis alone but the cost of the management of its complications and the management of a large number of patients left with a severe stenosis and an "incomplete" AMI which must be dealt with by intensive medical treatment and coronary angiography in all cases and in a number of cases by either angioplasty or coronary bypass surgery.*

*While all appears cut and dry on the surface and it seems that I/V thrombolysis is a routine treatment in all developed countries, an indepth probe into this subject shows a number of unresolved issues. Firstly, while the more selective agents like rt-PA have a higher rate of recanalization in all-comers, the much cheaper agent like SK is equally effective if given in less than two hours (when maximum good is expected) and while the bleeding complications may be slightly higher the reocclusion rate after 24 hours is lower with SK than with the very expensive rt-PA or pro-UK. The percentage of hemorrhagic AMI at autopsy seems to be a feature peculiar to thrombolysis and the incidence of this keeps increasing after the first hour of AMI. Finally, most patients with successful thrombolysis are left with high grade coronary stenoses and an "incomplete" AMI and a higher rate of subsequent angina, re-infarction and sudden death unless ALL CASES have coronary angiography and candidates for coronary angioplasty and coronary bypass surgery are identified and dealt with accordingly.*

*In a country with very very limited resources and only two fully developed centres for cardiac care to a population of 90 million, thrombolysis may be completely inappropriate. However, we must not close our minds to high technology and the good it can bring us if appropriately selected and applied at a proper time. We must constantly reassess our decisions ever so frequently. In my mind, the time for mass introduction of coronary thrombolysis in Pakistan has not yet arrived. Let me challenge this conclusion in a couple of years!*