OVERT AND SUBCLINICAL REACTIONS TO STREPTOKINASE IN ACUTE MYOCARDIAL INFARCTION AND IMPLICATION ON THE RENAL FUNCTION

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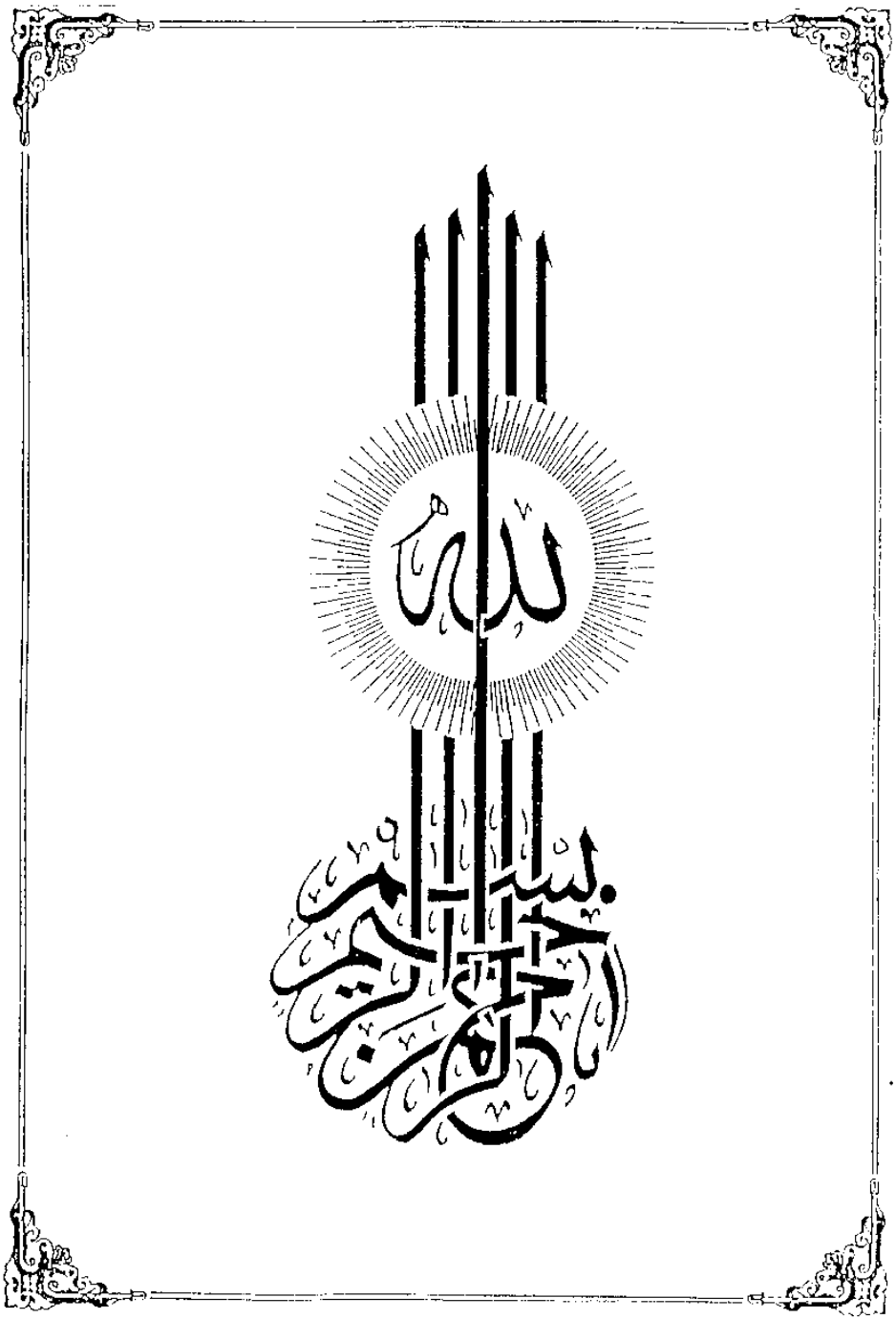

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Acute myocardial infarction describes the development of ischemia and necrosis of a portion of the myocardium . It is a common manifestation of ischemic heart disease and a leading cause of serious cardiac complications (***Goldberger and Wheat, 1983***) .

Almost all myocardial infarctions result from atherosclerosis of the coronary arteries ,generally with superimposed coronary thrombosis . The genesis of the coronary atherosclerotic lesion is a complex and controversial issue , and a number of risk factors have been associated with the development of atherosclerosis .However , regardless of the etiology and pathogenesis of the atherosclerotic process , the end result is plaques that cause luminal narrowing of the coronary arterial tree and in many instances ,a thrombus that causes further narrowing and often total occlusion ***(Baroldi , 1979***) .

Below a certain critical level of blood flow , myocardial cells develop ischemic injury .The pathophysiological studies revealed that irreversible myocardial damage occurs four to six hours following coronary occlusion , and trials of reperfussion should be performed within that period (***Kloner , 1983***) .

In 1980, before the introduction of thrombolytic therapy , the mortality rates during hospitalization and the year following infarction were approximately ten percent (***Braunwald ,1987***) . But now thrombolytic therapy has been effective in reducing the morbidity

and mortality of acute myocardial infarction (***Yusuf et al . , 1985***) .

Three thrombolytic agents ,Streptokinase [SK] , recombiant tissue type plasminogen activator , [rtPA] , and anisolyated plasminogen streptokinase activator complex [APSAC] are currently approved by the food and drug administration for intravenous use in patients with acute myocardial infarction ***(Heymann and Culling , 1994)*** .

By far , the greatest international experience has been accumulated with streptokinase in part owing to its low cost and demonstrated efficacy in reducing mortality rates in very large trials ***(Yusuf et al. ,1985)*** . It dissolves clots by conversion of plasminogen to plasmin which is a fibrinolytic enzyme ***(Goldberger , 1983)*** .

Recent exposure to streptococci or streptokinase ,which is a foreign protein produced by B hemolytic streptococci , produces some degree of antibody -mediated resistance to streptokinase ***(James, 1973)*** . In the international tPA/SK mortality trial , allergic reactions were seen in 1.7% of patients given streptokinase . The reported reactions were generally mild as rigors , rashes , less often bronchospasm and dypsnea. A number of severe reactions has been documented mainly serum sickness and less often acute anaphylaxis . Also proteinuria has been documented as well ***(Alexopoulos et al ., 1990)*** . Hypotension is expected in four to ten % . Bleeding complications are of course the most important and most serious . Seventy

percent of bleeding of bleeding episodes occur at the site of vascular punctures ***(Gore et al . , 1991)*** .

Where as all these reactions are obvious clinically , less evident reactions may be over looked in routine clinical practice ***(Argent and Adams , 1991)*** .

The aim of this study is to assess the possibility of predicting allergic reactions to streptokinase by measuring antistreptokinase antibodies before and after streptokinase therapy and by intradermal skin testing , and to determine if streptokinase infusion is associated with subclinical changes in the renal functions .