ASSESSMENT OF THE VALUE OF DIPYRIDAMOLE THALLIUM-201 IN DETECTION OF CORONARY ARTERY DISEASE IN PATIENTS WITH AORTIC VALVE DISEASE

THESIS

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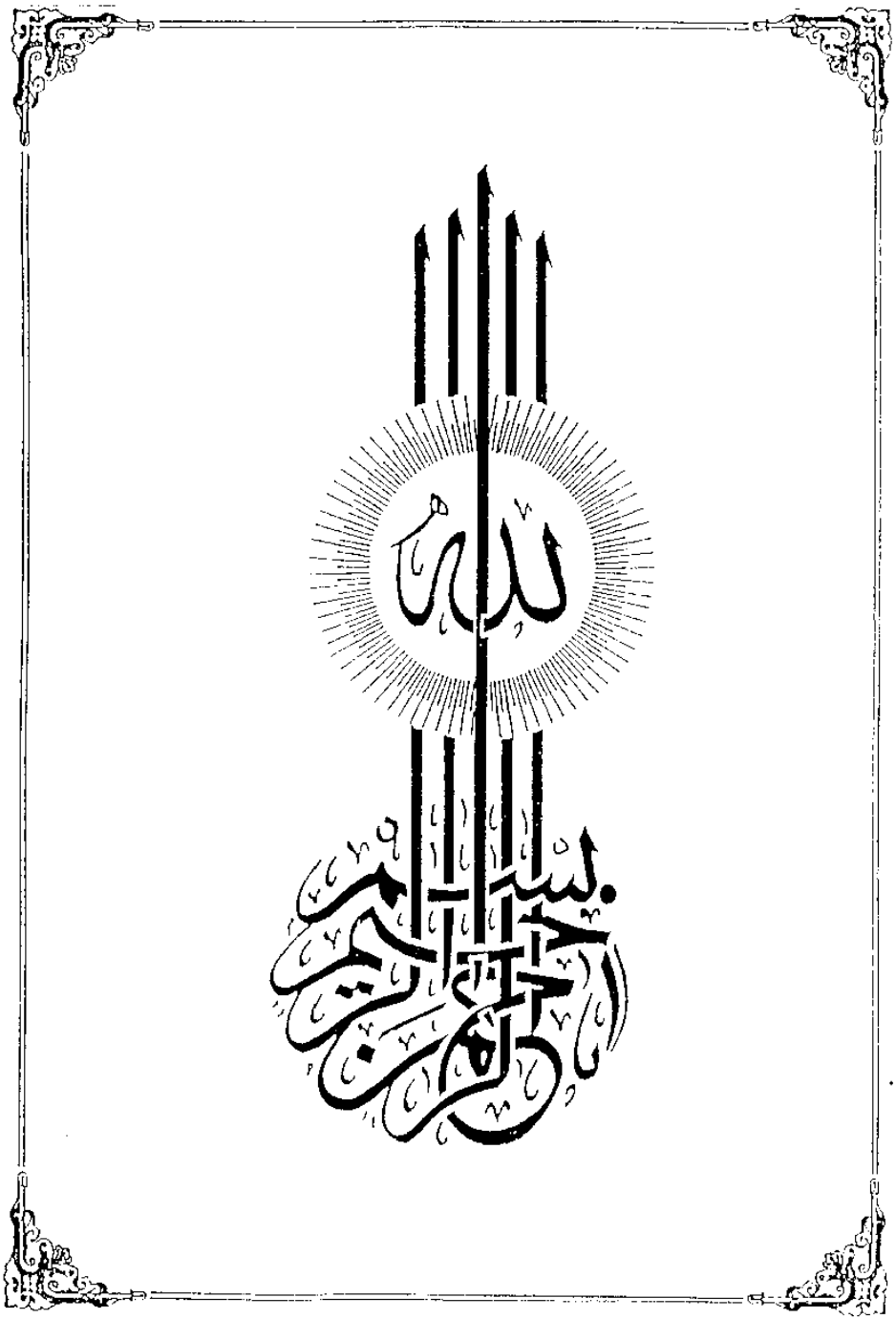

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الرحيم

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CONTENT

ABSTRACT

ASSESSMENT OF THE VALUE OF DIPYRIDAMOLE THALLIUM-201 TOMOGRAPHY IN DETECTION OF CORONARY ARTERY DISEASE IN PATIENTS WITH AORTIC VALVE DISEASE

*In many patients with aortic valve disease, management decision may be possible without invasive studies if coexistent coronary artery disease can be ruled out noninvasively . The use of thallium-201 single-photon emission computerized tomography to the detection of coronary artery disease, was studied in 50 patients with aortic valve disease, divided into 3 group . Group (1) included 12 patients with severe aortic regurgitation with a mean age of 56 ±5 ys, group (2) included 14 patients with combined aortic stenosis and regurgitation with a mean age of 56 ±5 ys, group (3) included 24 patients with severe aortic stenosis and mean age of 59 ±5 ys . In addition to cardiac catheterization and selective coronary angiography, patients underwent complete echocardiographic study, dipyridamole echocardiography and dipyridamole thallium-201 scintigraphy .

*Two patients in each group had angiographically significant coronary artery disease (≥ 50 % diameter stenosis in ≥1 coronary artery) . Each patient with significant coronary artery disease had abnormal thallium-201 tomogram, either strictly segmental perfusion defect or a patchy non-segmental abnormalities . Four patients in group (1), two patients in group (2) and three patients in group (3) free of significant coronary artery disease also had abnormal thallium-201 tomogram . Thus the sensitivity and specificity of abnormal thallium-201 tomogram, in detection of significant coronary artery disease was 100% and 60% respectively in group (1), 100% and 83% respectively in

group (2) and 100% and 86% respectively in group (3) . Among the results of dipyridamole echocardiography, only one of the six patients with coronary artery disease " patient NO 8 in group (2)", had normal wall motion pattern while the other five patients had abnormal wall motion pattern . Also five patients in group (1), three patients in group (2) and five patients in group (3) free of significant coronary artery disease had abnormal wall motion pattern . Thus the sensitivity and specificity of dipyridamole echocardiography, in detection of significant coronary artery disease was, 100% and 50% respectively in group (1), 50% and 77% respectively in group (2) and 100% and 77% respectively in group (3) . Thus dipyridamole thallium-201 scintigraphy and dipyridamole echocardiography, appear to be usueful non-invasive diagnostic tests for detection of coronary artery disease, in patients with aortic valve disease, with a higher sensitivity and specificity for dipyridamole thallium-201 scintigraphy compared with dipyridamole echocardiography .

INTRODUCTION AND AIM OF THE WORK

INTRODUCTION

*Patients with aortic valve disease represent an important group of patients with valvular heart diseases who by themselve represent a major group of cardiac patients in our community

*Aortic valve disease includes aortic stenosis, aortic regurgitation and combined aortic stenosis and regurgitation. Aortic stenosis is usually either congenital or degenerative in origin, less commenly it can be acquired as a result of rheumatic fever . Aortic regurgitation can be due to valvular disease in which rheumatic fever is the most common cause or due to aortic root disease which now account for more than one-third of all patients with aortic regurgitation "***Waller 1986***" .

*Angina pectoris occurs in approximately two-third of patients with critical aortic stenosis but it occurs less frequently in patients with aortic regurgitation "***Hakki et al 1980***" . However angina pectoris is an unreliable marker of coronary artery disease and its absence does not exclude coronary artery disease "***Coleman and Soloff 1976***" .

*Recent development in Doppler echocardiography have realized a fully noninvasive assessment of the severity of aortic valve disease "***Miller 1989***"

*Provided that coexistent coronary artery disease could be excluded without angiography, mangement decision could be made without cardiac catheterization in a significant proportion of patients . Thallium-201 scintigraphy is a sensitive and specific method for detecting angiographically important coronary artery disease "***Iskandrian and Hakki 1985***" .

*Dipyridamole infusion is a safe testing method that does not usually induce clinically evident myocardial ischemia but result in flow difference that discriminate stenotic from nonstenotic coronary arteries "***Sorenson et al 1985"** .

*Dipyridamole thallium-201 and exercise thallium-201 have shown to be equally sensitive and specific in the assessment of coronary artery diseae "***Castello and Labovitz 1992"** .

AIM OF THE WORK

The aim of this work is the assesment of the value of dipyridamole thallium-201 scintigraphy as a noninvasive test for detection or exclusion of coronary artery disease in patients with aortic valve disease .