

DEPARTMENT OF THE AIR FORCE  
DAVID GRANT USAF MEDICAL CENTER (MAC)  
TRAVIS AIR FORCE BASE, CALIFORNIA 94535



REPLY TO  
ATTN OF: SGE/2573

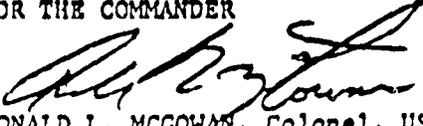
2 August 1973

SUBJECT: Interim Report: Clinical Investigation Proposal (389) - Noninvasive  
Assessment of Coronary Artery Disease - 30 Jul 73

TO: HQ USAF/SGPC

1. The attached interim report is forwarded for your information according to AFR 169-6.
2. The project is proceeding quite well without major problems of either clinical or technical procedure. This technique has been very well received and continues to gain in national acceptance and interest.

FOR THE COMMANDER

  
RONALD L. MCGOWAN, Colonel, USAF, MC  
Director, Professional Education

1 Atch  
Interim Rpt

Cy to: MAC/SG  
HQ AMD/RD  
SG  
SGH

INTERIM REPORT: CLINICAL INVESTIGATION PROPOSAL 399-NONINVASIVE ASSESSMENT OF CORONARY ARTERY DISEASE - 30 July 1973

I. INVESTIGATORS: Major Barry L. Zarat  
Lt Colonel M. D. Flamm, Jr.  
Colonel Neil D. Martin  
Lt Colonel Ronald L. McGowan  
Major Benjamin Tatera  
Lt Colonel L. P. Koop  
Major Steven V. Savran

II. STUDIES PERFORMED TO DATE: Through 25 July 1973, 215 studies have been performed upon 108 patients. Studies have continued to be performed one day per week. Prime efforts have been concentrated upon studying patients with coronary heart disease, both angina pectoris and myocardial infarction, as well as those patients who have recently undergone saphenous vein-by-pass surgery. Attempts are continuing to be made to investigate all patients with suspected false positive exercise tests as well as patients with equivocal exercise tests, in whom potassium 43 exercise scanning may be of major value in diagnostic evaluation.

III. RESULTS: Our results in patient studies have continued to be encouraging. Approximately 50 patients with transient myocardial ischemia have been evaluated with rest and exercise scans. Results have consistently shown abnormal areas in patients with coronary artery disease. In patients with myocardial infarction, zones of decreased potassium activity corresponding to the zones infarction have been routinely imaged.

In patients with false positive exercise tests, potassium 43 scans have been persistently normal. In an initial group of patients with equivocal exercise tests, the results of the potassium scans have correlated well with the presence or absence of coronary artery disease as documented by coronary arteriography.

In patients with saphenous vein by-pass graft surgery, there has been a general agreement between the data obtained with potassium 43 myocardial scans and that obtained with post operative arteriography.

Initial results of this work have been published in two reports: Zarat, et al, New England Journal of Medicine 288: 809, 1973, and Strauss, et al: Radiology 108: 85, 1973. A summary of the work will appear in a chapter in a book entitled "Nuclear Cardiology" which will be published by C. V. Mosby, Inc. We have recently been requested to submit an invited review article concerning this work to the American Journal of Medical Sciences. This will appear in that journal in December 1973. Two abstracts dealing with the technique in

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patients with false positive exercise tests and patients following saphenous vein by-pass grafts have been submitted for presentation at the 46th Annual Scientific Session of the American Heart Association. A publication detailing our results in patients with false positive exercise tests has been submitted for publication to Circulation.

In summary, the results of this technique have continued to correlate well with findings of coronary arteriography and appear to add a new dimension to the study of the patient with coronary artery disease. The technique has been well received in the scientific and medical community and has been accorded national acceptance.