Harris County Hospital District
Ben Taub General Hospital
Department of Pathology

May 26, 1994

Phillip J. Migliore, M.D.
Research Director
The Moran Foundation

Dear Dr. Migliore:

RE: T-cell Activation During Myocardial Infarction
2-92-50

The purpose of this study was to determine whether T cells expressing the α:β or γ:δ T cell receptors (Tcr) become activated in the course of myocardial ischemia or injury. The study included 4 patients with myocardial infarction.

We determined the expression of the T cell activation markers CD25 (IL2 receptor), CD71 (transferrin receptor) and HLA-Dr (Ia) during the acute phase of myocardial ischemic injury. CD25 showed the greatest progressive increase in expression within the first week of the acute episode. This was followed by IA; CD71 expression is only mildly increased above the reference range. Furthermore, we have shown that the α:β Tcr+ T cells are activated while the γ:δ Tcr+ T cells are not.

We also defined the reference values for the expression of CD25 (Interleukin-2 receptor), CD71 (Transferrin receptor) and HLA-Dr (Ia) on normal T-lymphocytes. The reference population consisted of thirty blood donors in a defined state of health. It was important to define reference ranges for our laboratory because our initial studies showed that the control values were falling above published reference ranges. One published study confirms one of our observations - that the expression of CD25 on unstimulated lymphocytes is greater than what is generally accepted.

The study has been **completed**. We sent an abstract to the Clinical Cytometry Society Ninth Annual Meeting on Clinical Applications of Cytometry, September 9-12, 1994 in Charleston, SC. Attached is a copy of the submitted abstract.

We thank the Moran Foundation for giving us the opportunity to perform some very important preliminary studies in a most important clinical area, that of acute myocardial infarction (AMI). To our knowledge, this study represents the first attempt at investigating the immunologic responses in AMI with respect to T-cell activation.

Sincerely yours,

Eugenio I. Bañez, M.D.
Principal Investigator
Moran Foundation Support 2-92-50

ABSTRACT FORM

Instructions: Complete this form and submit with 5 copies to CAC, P. O. Box 39778, Charleston, SC 29407 or Dr M. F. La Via, MUSC, 218 Children's Hospital, 171 Ashley Avenue, Charleston, SC 29425 by May 27, 1994. Type title in CAPS first, followed by person presenting abstract underlined, followed by collaborating authors, institution, city and state.

T LYMPHOCYTE ACTIVATION IN MYOCARDIAL ISCHEMIC INJURY,
Bañez, E.I.& Gagucas, R., Baylor College of Medicine and Ben Taub General Hospital, Houston, TX 77025

Myocardial ischemic injury may induce the expression of newly synthesized proteins such as the heat shock response proteins. Such proteins may activate T lymphocytes to secrete tumor necrosis factor and promote tissue injury. The purpose of this study was to determine activation of T cells in acute myocardial infarction. The expression of the T cell activation markers IL-2 receptor (CD25), transferrin receptor (CD71) and HLA-Dr was determined on peripheral blood by flow cytometry using fluorescence-labeled monoclonal antibodies. The reference ranges for these markers were determined from thirty normal individuals. Four patients with the diagnosis of uncomplicated acute myocardial infarction were initially tested within 24 hours of the acute episode. Follow-up testing every other day was done for at least 8 days (8-18 days). The percentage of CD25 positive T cells showed the greatest sustained significant increase(mean=33.4%;ref.range=4.4%-16.3%). Increased HLA-Dr expression was sustained in 2 patients (means: 21.4% and 27.6%;ref.range=6.1%-16.1%) and peaked (unsustained) between the second and third days in the other 2 patients. CD71 expression was also increased (mean=2.8%; ref.range=0.4%-1.4%). Furthermore, the $\alpha:\beta$ Tcr+ T cells were activated but the $\gamma:\delta$ Tcr+ T cells were not. We conclude that T lymphocytes are activated in the acute phase of myocardial ischemic injury.
(Research Grant: Moran Foundation 2-91-0050)

TOPICS

A. Methodologies & Quality Control
B. Phenotype Markers
C. Cell Function
D. HIV Disease
E. Lymphomas
F. Leukemias
G. Solid Tumors
H. Transfusion Medicine
I. Bone Marrow & Organ Transplant
J. Platelets, Reticulocytes & Granulocytes
K. Probes & Molecular Cytometry
L. DNA
M. Other cardiac immunology

POSTER TOPIC CATEGORY

1st phenotype markers

2nd cardiac immunology

PRESENTATION PREFERENCE
(to be selected by Abstract Committee)

___ POSTER ONLY
X ORAL PRESENTATION
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DO YOU WISH TO BE CONSIDERED FOR A YOUNG INVESTIGATOR AWARD NO

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SIGNATURE Eugenio I. Banez, MD

SAMPLE ABSTRACT
Use ... below ... guide for style and spacing when typ... ... abstract are 5x5.

... OF Fc RECEPTORS ... T LYMPHOCYTES.
... & Peeler, H., ... Charleston, ...

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