lar dysfunction with Dr. Goffredo Gensini and his associates and des-
dcribed my forthcoming editorial on this subject. At this meeting, Dr.
Gensini kindly called my attention to a paper with a similar title that he
had published several years ago, of which I was not aware.

Dr. H. E. Cohen of the Presbyterian–University of Pennsylvania
Medical Center, Philadelphia, has, after reading our editorial, suggest-
ted to me another clinical setting in which prolonged, postischemic
ventricular dysfunction may be operative. Dr. Cohen proposed that
precipitation or worsening of cardiac power failure after a prolonged but
successful resuscitation might be an example of global stunning, similar to
that which occurs after cardiac surgery, which we described. This is a
logical suggestion.

I am grateful to Drs. Gensini and Cohen for their interest, informa-
tion and suggestions.

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References

1. Braunwald E, Kloner RA: The stunned myocardium: prolonged,
2. Gensini GG, Esente P, Marmor B, Black A, Black M, Giambartolo-
mei A, Effler DB: Stunned myocardium or myocardial infarction?
Diagnosis and treatment. In Quantification of Myocardial Ischemia,
edited by Kreuzer H, Parmley WW, Rentrop P, Heiss HW. New
York, Gerhard Witzstock Publishing, 1980, p 593

More Stunned Myocardium

To the Editor:

When most have been absorbed in the measurement of infarct size and
various means to reduce necrosis and salvage myocardium, it is
significant that Braunwald and Kloner have added needed perspective,
although not new, by defining the ‘‘stunned’’ myocardium. Previous
studies1-3 have attempted to focus attention on the functionally de-
ranged tissues that survive experimental myocardial infarction. Al-
though such tissue can be considered to be salvaged as a result of
reperfusion or development of collateral flow, its functionally abnormal
properties can serve as the pathophysiologic basis for ectopia with the
potential for sudden arrhythmic death. Recently, we described the elec-
trophysiologic counterpart to the studies cited by Braunwald and
Kloner. In the dog heart in which 30 minutes of occlusion are followed
by reperfusion, ventricular tachycardia/fibrillation can be induced by
stress pacing of the ventricles. Before occlusion or after 20 minutes of
occlusion and reperfusion, such malignant arrhythmias cannot be in-
duced by the same pacing regimen. In addition, 24 hours after the
transient ischemic episode 40% of the dog hearts still respond to pacing
with rapid sustained ventricular tachycardia leading to ventricular fibril-
lation. However, minimal or no necrosis can be shown.

These studies may have important clinical implications, since the
majority of subjects resuscitated from sudden arrhythmic death do not
show acute infarction but do have severe coronary artery disease.7,8
The various clinical means to revascularize ischemic myocardium, such as
coronary artery bypass and streptokinase thrombolysis, should con-
sider the consequences of salvaging not only jeopardized, normal tissue
but also provoking new potential for ectopic activity in ischemically
damaged myocardium.

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Addendum

In the Appreciation in the December 1982 issue (Circulation
66: 1351, 1982), the name of Barry Greenberg, M.D., of Port-
land, Oregon, was omitted. Dr. Greenberg reviewed two manu-
scripts for Circulation from October 1981 through September
1982.
More stunned myocardium.
B J Scherlag

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