

## LETTERS TO THE EDITOR

### Prominent Right Precordial R Waves and Myocardial Infarction—I

Bough et al. (1) reported that in 300 selected patients, scalar electrocardiograms and radionuclide angiocardiograms were used to assess the association between prominent right precordial R waves and asynergy in various left ventricular segments. They concluded that prominent right precordial R waves are clinically useful in identifying inferior and lateral wall infarctions that involve the basal lateral left ventricular segment. No data on right ventricular function were provided.

Clinical and subclinical involvement of the right ventricle in the setting of "inferior" wall myocardial infarction has been reported in large numbers of patients. We wonder if the prominent right precordial R waves in some of the patients studied by Bough et al. are not related to right ventricular involvement. We have observed that an R/S ratio of more than 1 or an RSR' pattern in the right precordial leads in patients with permanent transvenous right ventricular pacemaker rhythm is diagnostic of right ventricular dysfunction. A recent study (2) in 31 patients with a first myocardial infarction involving the lateral and posterolateral walls did not show an R wave greater than the S wave in lead V<sub>1</sub> or V<sub>2</sub> on hospital admission or discharge.

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#### References

1. Bough EW, Boden WE, Koor KS, Gandsman EJ. Left ventricular asynergy in electrocardiographic "posterior" myocardial infarction. *J Am Coll Cardiol* 1984;2:209-15.
2. Movahed A, Becker LC. Electrocardiographic changes of acute lateral wall myocardial infarction: a reappraisal based on scintigraphic localization of the infarct. *J Am Coll Cardiol* 1984;4:660-6.

### Prominent Right Precordial R Waves and Myocardial Infarction—II

In relation to the report of Bough et al., two questions come to mind. 1) Was a study made of T wave configurations with tall right precordial R waves? 2) Was a control group of electrocardiograms studied in patients with acute pulmonary embolism infarction?

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#### Reply

We reviewed the right ventricular ejection fractions of the 49 patients who exhibited an  $R \geq S$  in lead V<sub>1</sub> or V<sub>2</sub>. Only 13 of the 49 patients had a right ventricular ejection fraction of less than 41%, which is the lower limit of normal in our laboratory (1). Of these 13 patients with right ventricular dysfunction and  $R \geq S$  in lead V<sub>1</sub> or V<sub>2</sub>, only 2 had normal basal lateral wall motion. We therefore think it unlikely that right ventricular dysfunction (or presumed infarction) is a likely explanation for  $R \geq S$  in lead V<sub>1</sub> or V<sub>2</sub>. Since none of our patients was paced at the time the reference electrocardiograms were taken, we cannot comment on the association of  $R \geq S$  in lead V<sub>1</sub> or V<sub>2</sub> during pacing with right ventricular dysfunction. There are two possible explanations for the different prevalences of  $R \geq S$  in lead V<sub>1</sub> or V<sub>2</sub> in our patients and those of Movahed and Becker. First, they did not distinguish between basal and distal lateral wall asynergy which, optimally, requires a caudally angulated slant-hole collimator in the left anterior oblique projection. As our study demonstrated, distal lateral asynergy (quite common) is much less well correlated with  $R \geq S$  in lead V<sub>1</sub> or V<sub>2</sub> than is basal lateral asynergy (quite uncommon). Second, we disagree with the nomenclature they propose in Figure 1 of their report since a significant portion of the walls labeled "posterolateral" or "posterior" may in fact be inferior wall, thus accounting for the unexpectedly high prevalence of inferior Q waves in their patients with purportedly pure "lateral" infarction.

We did not examine T wave changes mainly because of the multiple possible combinations of electrocardiographic findings it would have introduced. We did not attempt to study patients with acute pulmonary emboli because of the obvious difficulty in assembling a sizable control population with well documented emboli and contemporaneous gated blood pool scans.

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1. Korr KS, Gandsman EJ, Winkler ML, Shulman RS, Bough EW. Hemodynamic correlates of right ventricular ejection fraction measurement by gated radionuclide angiography. *Am J Cardiol* 1982;9:71-7.

### Risk Factor Modification

In their article on the results of surgical myocardial revascularization, Lytle et al. (1) state that "risk factor modification was not evaluated, and it is self-evident that that strategy should be pursued postoperatively even though its efficacy has not been demonstrated in postoperative patients." This seems a poor excuse for not talking about the role of cardiac rehabilitation in postoperative