As emphasized by Watkins et al., the variability in plasma renin activity in CHF is explained by the degree of compensation in maintaining arterial pressure and plasma volume; the latter measurement was not obtained in the Curtiss or Gavras study. The observations in these two recent studies reaffirm the importance of the RAA system in maintaining systemic vascular resistance (SVR) in CHF. Curtiss's observation of a paradoxical correlation between the RAA system and circulating catecholamines is most provocative and suggests an important synergistic action; this deserves further investigation.

Recently Freeman et al. investigated the role of the RAA system in the mechanism of edema formation in CHF in caval constricted dogs. This group observed significant increases in sodium excretion both in acutely and chronically treated animals. Their conclusions emphasized the direct tubular effect of aldosterone in this sodium retaining state; one must, however, conclude that a decrease in both SVR and renal vascular resistance is equally important.

The RAA system clearly plays a critical role in the pathogenesis of the syndrome of CHF. Continuing studies should increase our understanding of its role in systemic and renal hemodynamic adjustments in heart failure. As demonstrated by Watkins, the compensatory increase in RAA system activity is crucial to the maintenance of arterial pressure; therefore, caution must be taken in the use of CEI and CHF inasmuch as profound hypotension and its serious consequences may occur in an unidentifiable group of patients.

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References

Left Ventricular Function During Pregnancy

To the Editor:
In the recent well-designed study of left ventricular function during normal pregnancy, the authors were aware that the assessment of sequential changes in echo dimensions requires rigid standardization of the technique, the use of each subject as their own control and appropriate statistical analysis. Using this method they showed a significant increase in ventricular dimensions during pregnancy in the lateral position. However, they state that no such change occurred in the supine position. In fact, the trend in measurements was identical at each stage in each position, although the magnitude of change was smaller in the supine position. While they were correct to state that no statistically significant change occurred we do not feel that this allows the conclusion that true changes do not occur in the supine position. We feel it is more likely that their good study design was, nonetheless, not sensitive enough to show such small changes to be significant.

We have shown that multiple measurements in each subject on each occasion increases the echo techniques sensitivity by providing a measure of individual variability, and suggest that with this modification the supine changes may well have been declared significant.

In studies where changes of small magnitude may occur, multiple measurements improves the sensitivity of this important non-invasive technique.

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Left ventricular function during pregnancy.
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