

■ *In reply:* Dr. Cheng has pinpointed two areas of postoperative care following the maze procedure that should be communicated to the general cardiology community.

First, peripheral edema, postulated to be due to the depletion of atrial natriuretic factor (ANF), is a significant problem; of our 24 patients who underwent the maze procedure, 8 (33%) had to be readmitted because of it. However, we have not found an early depletion of ANF: in fact, we have found elevated levels of ANF during the period of fluid retention. The mechanism for this fluid retention is as yet unknown, but it is the subject of active research.

Second, we agree with Dr. Cheng that sinus rhythm has occasionally been misdiagnosed as junctional rhythm in patients who have undergone the maze procedure. The absence of the P wave on the surface electrocardiogram is thought to be due to atrial depolarization occurring sequentially in different areas of the maze of incisions. During the early postoperative phase we routinely perform "atrial electrocardiograms" through the temporary atrial pacing wires to confirm the resumption of sinus rhythm before a P wave is evident on the electrocardiogram.

Finally, we are performing this operation as a secondary procedure in patients undergoing open

heart surgery, but we have not been as aggressive as Dr. Cheng's surgical colleagues. Many patients with atrial fibrillation of recent onset will resume sinus rhythm after correction of their underlying mitral valve disease. This is especially true for patients who have normal or only mildly enlarged atria. In addition, following mitral valve *replacement*, the potential for technical disaster due to left ventricular free-wall rupture is present if any of the posterior atrial suture lines bleed and need surgical repair. For these reasons, we have limited mitral valve repair with the maze procedure to patients who have been in chronic atrial fibrillation for one or more years and who have enlarged atria. Although the maze procedure is an effective operation, it is not innocuous. Therefore, we recommend combining it with other heart operations only if there is little chance that sinus rhythm would return otherwise. We have now performed mitral valve repair combined with maze procedures in six patients and have also combined the maze procedure with coronary artery bypass operations.

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