



Figure 2. Examples of Real-Time 3-Dimensional Transesophageal Imaging

(A, C) The mitral orifice from the ventricular side before and after percutaneous mitral commissurotomy. As in Figure 1, C shows the opening of the commissures as a result of the procedure. (B) A view of the mitral orifice from the left atrial side. Further, the balloon catheter is seen within the left atrium as the operator moves it toward the mitral orifice.

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REPLY

We thank Dr. Gill and colleagues for their interest in our paper (1) and for their comments. In this work, we evaluated the prognostic value of the degree of commissural opening (CO) after percutaneous mitral commissurotomy (PMC) in patients with mitral stenosis (MS). We concluded that the degree of CO provides important prognostic information and thus should be systematically evaluated during and after PMC and considered as a complementary measure of procedural success in addition to the mitral valve area, which is not always easy to assess.

The degree of CO was prospectively evaluated between 1986 to 1995 using the only imaging modality available at the time, 2-dimensional echocardiography. Real-time 3-dimensional echocardiography (RT3DE) is a relatively new echocardiographic modality that may change our routine practice in general, and more specifically during noncoronary interventional procedures (2). We fully agree with Dr. Gill, that RT3DE is probably the best method to assess the degree of CO. RT3DE provides multiple views, en face of both atrial or ventricular perspective as well as lateral

rotations, allowing an easy visualization of the degree of CO. We have previously shown that 2-dimensional echocardiography underestimated the degree of CO compared with RT3DE in one-third of patients (3). We are now routinely using RT3DE during PMC to guide the procedure.

We also agree with Dr. Gill that real-time 3-dimensional transesophageal echocardiography (RT3D-TEE) provides an even more impressive visualization of the mitral valve and of the commissure anatomy, as they show in Figure 2. However, we would like to underline that if TEE is systematically performed before the procedure to exclude a thrombosis in the left atrium, PMC is usually performed under local anesthesia in a conscious state precluding its use during the procedure. In our institution, PMC is performed under general anesthesia and TEE guidance in certain circumstances such as pregnancy or complex transeptal puncture, and we are now using RT3D-TEE in these cases.

In summary, we all agree that RT3DE is probably the most accurate and easiest method for assessing the degree of commissural opening, but the use of RT3D-TEE remains limited to the assessment of valve anatomy before the procedure and to the rare PMC cases performed under general anesthesia due to the penibility of the examination.

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