systemic embolization. Surgical treatment is necessary when the stenosis is severe and symptomatically limiting.

Mitral commissurotomy, which avoids numerous disadvantages of artificial cardiac valves, is the surgical procedure of choice for patients who have uncomplicated mitral stenosis without severe mitral regurgitation or extensive valvular calcification. Although an effective procedure, closed mitral commissurotomy has largely been supplanted by open commissurotomy, directly visualizing the valve during cardiopulmonary bypass. The commissures are incised; and when necessary, fused chordae are separated, the underlying papillary muscle is split, and the valve is debrided of calcium. Mild or even moderate mitral regurgitation may be corrected with suture plication or annuloplasty. Surgical mortality should be less than 2 percent in most cases.

Hemodynamic and symptomatic responses to a successful commissurotomy are usually prompt and dramatic. Paradoxically, symptoms may appear to regress even in patients undergoing an unsuccessful operation, presumably due to a placebo effect or by conversion of a stenotic lesion to predominant mitral regurgitation. It is thus essential to establish the success of commissurotomy in an objective fashion, preferably at the time of operation, so that the procedure can be revised if inadequate.

Although the mitral valvular gradient can be measured and an inspection made for mitral regurgitation in the operating room, these observations are of limited value because of the artificial hemodynamic situation in which they are made. In this issue of Chest (see page 180), Evora and colleagues propose assessing the size of the mitral orifice during surgery by measuring the diameter of a Foley balloon catheter maximally inflated in the orifice. This technique would seem to be limited by the fact that the mitral orifice is not circular, but these investigators obtained excellent results in comparing their method to the valvular area calculated from hemodynamic data using the Gorlin formula. Of interest, their measurements of valvular area were consistently larger than those calculated from the pressure gradient, just as are those made by two-dimensional echocardiographic studies when compared to calculated values. This is perhaps due to the fact that Toricelli’s equation, used to calculate valvular area, does not account for viscous friction in an orifice which has some tube-like features, as might occur when the rheumatic process involves fusion of chordae tendineae as well as stenosis of the commissures themselves.

Sahn and colleagues recently reported the use of two-dimensional echocardiographic and echo contrast studies during surgery to assess the results of reconstructive valvular surgery, both by directly visualizing the valvular structure and by detecting mitral regurgitation. This procedure may also have a role in guiding the surgeon to a successful commissurotomy.

The long-term results of mitral commissurotomy are good. Many earlier reports of “restenosis” are probably contaminated by patients who underwent ineffective commissurotomies. Using two-dimensional echocardiographic studies to assess the mitral valvular area, only 28 percent of the patients who had received a successful commissurotomy, as judged by postoperative catheterization, had significant restenosis on follow-up of ten to 14 years. Restenosis does occur, therefore, and patients should undergo periodic objective evaluation following successful commissurotomy. Two-dimensional echocardiographic studies appear to be an ideal noninvasive means of assessing the severity of mitral stenosis.

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Endomyocardial Biopsy
Established Diagnostic Procedure

Since the development of the flexible biotome, endomyocardial biopsy has become a relatively safe and easy procedure performed at many medical centers to evaluate cardiac disease histologically. In experienced hands, the mortality associated with endomyocardial biopsy is virtually zero and the morbidity very low—less than that accompanying other
procedures such as liver and kidney biopsies. With such a safe procedure it might appear reasonable to perform endomyocardial biopsies on all patients with possible cardiac disease; however, a diagnostic tool is useful only if it provides new and clinically valuable data. Evaluation of cardiac transplant rejection and anthracycline-induced cardiotoxicity are two well-documented reasons to use endomyocardial biopsy. The biopsy is also useful for identifying the nature of restrictive or infiltrative cardiac diseases, such as amyloid heart disease. In addition, the diagnosis and classification of myocarditis can be facilitated by endomyocardial biopsy. On the other hand, endomyocardial biopsies from patients with long-established cardiomyopathies often do not contribute significant new or useful information. In advanced disease processes, the histologic picture is that of endstage disease and is nonspecific. Thus, while the endomyocardial biopsy has contributed considerably to the diagnosis of cardiac disease, it is not invariably useful.

The diagnostic yield of the endomyocardial biopsy may be maximized by limiting the types of cardiac disease biopsied. At our institution, the following criteria are used in selecting patients for endomyocardial biopsy: 1) unexplained congestive heart failure or ventricular failure disproportionate to demonstrable valvular or coronary artery disease; 2) angina or ventricular ectopy in the absence of demonstrable coronary artery disease; 3) differentiation between restrictive and constrictive heart disease; 4) evaluation of patients for possible cardiac transplantation; 5) monitoring transplant rejection; and 6) monitoring anthracycline-induced cardiotoxicity. Many other institutions follow similar guidelines. Using these criteria, the yield of clinically useful information is approximately 70 percent at our institution. We feel that this yield is perfectly acceptable for a procedure of such low morbidity.

In this issue of Chest, yet another use for the endomyocardial biopsy is reported by Hanley et al (see page 195) who diagnosed a metastatic malignant melanoma from tissue specimens removed from the left ventricle with the biotome. This use for the biotome will be an infrequent one indeed, recognizing the rarity of cardiac tumors. However, the potential gains are great as illustrated by this case in which the patient was spared the discomfort, risk and expense of an open thoracotomy for the tissue diagnosis of an inoperable tumor.

Although metastatic tumors are by far the most common of all cardiac tumors, endomyocardial biopsy could be of equal value in diagnosing primary tumors of the heart. The authors, however, correctly warn that there is an unknown risk of embolization of the tumor due to trauma in attempting to obtain a biopsy diagnosis. This is definitely true of intracavity masses such as myxomas, and biopsy probably should not be attempted in these lesions. The trauma inflicted by the biopsy forceps is minimal in intramural masses, and the risk of tumor embolization in these lesions is small.

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Tuberculosis Control
The End of an Era?

In December 1981 the government of the province of Ontario (Canada) abolished the Chest Disease Service, by far the most important part of the activities of the provincial tuberculosis control program. This decision, spurred by economic crisis, was felt to be justified by the relatively low and declining incidence of tuberculosis in the province (742 active cases of this disease were diagnosed in Ontario’s population of 8½ million in 1981, giving a rate of 8.6/100,000); the rate of decline of this disease in Ontario is about 3 percent/annum. It is of interest that Ontario was apparently the first jurisdiction in North America to organize a chest clinic service—in 1925 there were 33 city clinics which examined over 65,000 individuals, and by 1940 clinics were conducted in 71 different centers in the province.

Although Ontario provides the most dramatic and the most recent example of the withdrawal of government from the special care of tuberculosis, in many jurisdictions in Canada and the United States, the funds allocated to tuberculosis services are gradually being diminished, with the consequent reduction of the programs offered to the public.

The planning and establishment of government-run