the best haemodynamic results in this situation.

When one considers the many problems that are associated with surgery for rheumatic valvular heart disease, it becomes clear that a greater effort in preventing rheumatic fever is indicated. Clearly, this is one instance where prevention is better than cure, especially as valve surgery is largely palliative rather than curative.

REFERENCES

Past and Present in Valve Surgery

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In this International Symposium on Valvular Heart Disease, two aspects of Valvular Surgery are discussed. Firstly, the significant changes in valve surgery for these 15 years are described. Secondly, some of the topics of valve surgery are touched upon.

1. Changes of valve surgery

For 15 years between 1973 and 1987, a total of 691 patients were operated in the University of Tokyo Hospital. These include 441 cases with mitral valve disease (MVD), 132 cases with aortic valve disease (AVD), and 118 cases with combined aortic and mitral valve disease (CVD). When these 15 years are splitted into three 5-year-periods, the increase in case load period by period is apparent. (I period 114, II period 224, III period 355).

One of the significant changes has been in the mean age of patients. It is increasing steadily (I period 38, II period 45, III period 49). One of the other changes is the increase of reoperation of valve disease. It was 7% in the period, followed by 12% in II period, and 19% in III period.

Regarding the etiology of MVD, rheumatic valve disease is decreasing while floppy valve disease and prosthetic valve disease are increasing. In AVD, calcific valve disease has increased. This is probably in accordance with the increase in patient age. In CVD, major etiology is still rheumatic, although infective endocarditis is increasing.

Operative methods have changed considerably for these 15 years, especially in MVD and CVD.
Closed mitral commissurotomy, which was very popular in I period, was replaced by open mitral repair in II and III period. The number of patients undergoing mitral valve replacement has been increasing and currently it outweighs that of open mitral repair. In CVD, number of patient undergoing double valve replacement has increased, while aortic valve replacement plus mitral valve repair has decreased.

Surgical results are consistently improved. In I period, operative mortality was 12.3%, which fell to 8.5% in II period and further decreased to 5.1% in III period. Current operative mortality in 110 cases operated during recent 2 years is 3.6%.

2. Current topics in valve surgery

The first topic is the modified mitral valve replacement leaving posterior leaflet and its chordae in place. Our technique can be used not only for the floppy valve but also for fibrous rheumatic valve. Any type of prosthetic valve can be utilized. We recognized that patients with modified mitral valve replacement showed better postoperative hemodynamics, requiring smaller amount of catecholamine support and earlier recovery. Besides, posterior left ventricular rupture has been completely eliminated since adoption of this technique. These two factors resulted in significant improvement of surgical outcome. More recently, we extended the modified technique to the anterior chordae in patients with floppy mitral valve.

The second topic is valve replacement for infective endocarditis. Some of the patients present with extensive infection which invades not only the valve leaflet but also its surrounding tissues forming annular abscess. We believe the key of the successful valve replacement in extensive active endocarditis is the complete removal of infected tissues.

In our experience in 44 patients (active 21, healed 23), we lost 3 patients in active stage due to cerebral or renal complication which occurred prior to surgery. Three patients required multiple reoperations due to recurrence of regurgitation.

The third topic is aortic valve replacement in the small annulus. It is our policy to select the minimum size of the prosthesis according to the body surface area of the patient. In order to put in a prosthesis of proper size, some patients required annular enlargement procedures.

When the aortic annulus is one size smaller, we perform Nicks procedure. And when it is two size smaller, we proceed with Manouguian operation. We have done 11 such operations (Nicks 6, Manouguian 5). The sizes of the prosthesis thus implanted are #19 (4 cases), #21 (6 cases), and #23 (1 case). All patients survived.