evidence of reduced venous return and alternating end-diastolic fiber length as causative factors. Chest 80: 756, 1981

Mitral Annuloplasty vs Valve Replacement for Mitral Insufficiency

To the Editor:

Attie et al.1 reported their experience with valve replacement in children with mitral insufficiency. They divided their patients in three groups, depending on the type of prosthesis: mechanical valves, porcine xenografts and dura mater valves. Follow up times were 6.3, 3.3 and 1.9 years, with death rates of 1.3%, 14% and 2.3% per patient/year. Thromboembolism, valve dysfunction and infectious endocarditis were listed as chief complications.

When advising a patient on surgery, we should strive to present options, weigh risks and benefits. Some mitral valves are so severely diseased that valve replacement is mandatory. However, it is regrettable that the option of mitral annuloplasty was not considered by Attie et al. even as a theoretical possibility. The long-range survival after annuloplasty4 is at least as good as that after valve replacement. Embolic phenomena and infective endocarditis are virtually nonexistent. (When judging results, the patient’s age and associated cardiac lesions are highly important.) Including our earlier experience, we have done mitral annuloplasties on 22 children without mortality (early and late), and with marked improvement in clinical status in all but one. None of our patients developed mitral stenosis or any other late complications. Figure 1 shows pre- and postoperative chest x-rays of a 16-year-old girl who repeatedly had pulmonary edema and severe pulmonary hypertension before the family agreed to surgery. She is now in New York Heart Association functional class I and has mild residual mitral insufficiency.

As valve replacement is far from being a perfect art, annuloplasty should be seriously considered by cardiologists and surgeons for treatment of mitral insufficiency, especially when the patient is a child.

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References


The author replies:

To the Editor:

We appreciate the comments of Drs. Thilenius and Replogle on our paper on mitral valve replacement in children. I would like to answer that the paper was directed to the what type of prosthesis should be used for mitral valve replacement in patients under 15 years of age, and not to what surgical procedure is better for these children.

Our experience with mitral annuloplasty is not enough to compare both techniques and their results. The results obtained by Drs. Thilenius and Replogle, as well as those reported by other authors, are encouraging the use of mitral annuloplasty to reduce the problems related to anticoagulant therapy and bioprosthesis calcification.

We do not deny that mitral annuloplasty is of great value, but as I mentioned earlier, the sole purpose of this paper was to report our results on which valvular prosthesis is best for children.

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Corrections


On page 654, the formulas for PVR and Vcf were printed incorrectly. The correct formulas are

\[
PVR = \frac{(\text{mean PAP} - \text{mean PCWP})}{\text{CO}}
\]

\[
Vcf = \left(\frac{d_{\text{ED}} - d_{\text{ES}}}{d_{\text{ED}}}\right) \times \text{ejection time.}
\]


On page 702, the sentence beginning on line 26 of the left-hand column should read: An induced increase in heart rate averaging 34 beats/min produced an increase in mean Vcf of 13% in human subjects, and a phenylephrine-induced increase in systolic blood pressure of 38 mm Hg reduced mean Vcf by 21%.
Mitral annuloplasty vs valve replacement for mitral insufficiency.
O G Thilenius and R L Replogle

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