

aorta and the left ventricle, the defect was closed with Dacron graft patch, which was sutured to normal left ventricular and aortic tissue. The aortic valve prosthesis was then sutured to the remaining aortic valve annulus and the rest of its ring to the graft (Fig. 2). This form of repair allows closure of the defect between the aorta and left ventricle under no tension and provides good foundation for suturing the aortic valve at its normal level. In addition, the operative procedure is completed in the shortest possible time, and the coronary arteries are left undisturbed.

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DISCUSSION

DR. ARTHUR C. BEALL, JR. (Houston, Texas): We recently reported our experience with a similar group of patients and these data would be very similar to what Dr. Symbas has said. Although we prefer to have six weeks of antibiotics, and hopefully sterilize the valve area before prosthetic replacement, once these patients begin to deteriorate, they will not live long enough without operation to sterilize the valve.

So two things have become apparent: We should operate on these patients as soon as they start to deteriorate, regardless of the length of antibiotic therapy, and even under these circumstances only a small percentage will infect their prosthesis.

DR. GEORGE C. KAISER (St. Louis, Missouri): Dr. Symbas review indicates the effectiveness of surgical intervention in the treatment of these severely ill patients. Our experience supports this.

It would be inappropriate to have this topic on this program without

mentioning the fact that two pioneers in the use of aortic valve replacement in acute bacterial endocarditis are members of this society. Drs. Robert Ellison and Glenn Young and their associates, more than 15 years ago, championed the use of valve replacement in acute bacterial endocarditis.

Initially, there was some concern about placing prosthetic material in an infected area that was only partially treated with antibiotics. This fear was unfounded. Their results were excellent. This depended upon two principles. The first is that these organisms are sensitive to the antibiotic that is employed. Second is that the antibiotic has been administered for at least a few days prior to operation.

Two other important features of bacterial endocarditis, when one considers operating upon these patients, were illustrated by Dr. Symbas today. One is that the aortic valve is clearly the most common valve involved by a factor of more than two times over the other valves combined. Second, involvement not only of the leaflets but also of the annulus and the surrounding structures is common in the aortic valve. Another involvement is relatively uncommon in the other valves. These two features can cause substantial difficulty at the origin of the aorta.

Sometimes it takes a good deal of ingenuity to reconstruct this area, as we have seen today.

It has been touted that the treatment of choice of tricuspid valve endocarditis is to excise the valve and not replace it at that time. It has been our experience that this is not an entirely benign procedure. These patients later return with rather severe congestive failure and need tricuspid valve replacement. Some of them had tricuspid valvectomy at other institutions and later have appeared in our area requiring tricuspid valve replacement. In these other cities, these patients have been recorded, and continue to be recorded as excellent results, falsely supporting the concept that tricuspid valvectomy is a benign procedure.

Even though these patients are usually drug addicts, I would ask Dr. Symbas how he approaches the patient with tricuspid valve endocarditis. Does he excise the valve and replace it then? Would he replace the valve later after excision as a staged procedure? Or does he think most of these people will live indefinitely without a tricuspid valve?

DR. PANAGIOTIS N. SYMBAS (Closing discussion): As to Dr. Kaiser's question concerning my philosophy on the management of patients with tricuspid endocarditis before I start, I have to preface that my philosophy is based on my limited personal experience with this lesion and on that reported in the literature.

Since it has been previously shown that some patients do quite well with the tricuspid valve removed, for quite a long period of time, and since others following tricuspid valvectomy develop severe symptoms and signs of tricuspid regurgitation and require valve implantation, as one of our patients did, my philosophy on the management of tricuspid endocarditis is as follows: The patients who are infected with organism sensitive to an antibiotic should be managed as the patients with endocarditis at another valve *i.e.*, with tricuspid valve replacement. The patients, on the other hand, who are infected with organism resistant to all antibiotics should be managed with tricuspid valvectomy and followed closely. If any of them develop symptoms and signs of tricuspid insufficiency, as some of them will, they should then be reoperated upon and valve implanted in the tricuspid position.