See Article page 43.

Commentary: Wrapped or unwrapped Ross procedure?

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In this issue of the *Journal*, Starnes and colleagues¹ report their experience with the Ross procedure in a relatively small number of patients using 2 distinct techniques: standard aortic root replacement in 71 patients (median follow-up, 15.5 years) and with the pulmonary autograft mounted inside a tubular Dacron in 51 patients (median follow-up, 4.3 years). I may not be the best surgeon to criticize this technique, because I have been “wrapping” dilated aortic roots since I developed aortic valve reimplantation in 1989, and this operation has worked remarkably well in carefully selected patients over the past 30 years.²

The probability of reoperation on the pulmonary autograft at 10 years was lower in patients with the pulmonary autograft inside a tubular Dacron graft than in those with a free-standing aortic root, but the latter group had an unusually high reoperation rate at 10 years, which may have included the “learning curve” for the Ross procedure in this report.

The concept of wrapping the pulmonary autograft is not new.³ What is new in this report is that the pulmonary autograft was mounted inside a tubular Dacron graft before implantation. The most attractive feature of this technique is that it eliminates the need to alter the anatomy of the aortic root to match that of the pulmonary autograft during the Ross procedure and probably makes the operation simpler. Obviously, one must be careful when reimplanting the coronary arteries and making sure that the opening in the Dacron graft would not compress or kink the coronary arteries.

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CENTRAL MESSAGE

Wrapping a pulmonary autograft may enhance its durability, but the best technique for wrapping remains unclear.

The principal attraction of the Ross procedure is that it replaces the aortic valve with a “living valve” able to adapt itself to the systemic circulation. I wondered whether the autograft remains alive inside a rigid, noncompliant, and avascular structure such as a tubular Dacron graft, and I asked this question of Dr Starnes when he presented this work at the most recent AATS meeting. He indicated that in patients who required aortic valve replacement, the autograft appeared to be viable and well healed inside the Dacron, similar to what happens after aortic valve reimplantation for the treatment of aortic root aneurysm.

I congratulate Starnes and colleagues for this contribution, and note that it is imperative that they continue to monitor the patients who underwent this type of aortic root replacement. I am not going to change the way I do the Ross procedure, because I continue to believe that the best material for wrapping the pulmonary autograft is the patient’s native aortic root. Obviously, this is not possible in all patients with bicuspid aortic valves, but it is possible in the vast majority, because these patients frequently have a larger aortic root than pulmonary root.

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