An ultrasonic decalcification tool easily pulverizes and extracts the MAC.^{2,3} This device spares soft tissue, and hence the circumflex coronary artery is preserved. Because the left ventricle, left atrium, and mitral leaflet(s) are largely disconnected, reconstruction may require an annular patch as Feindel and coworkers¹ describe for valve repair. For valve replacement, sutures passed from left atrium, to left ventricle, around the residual mitral leaflet, and through the prosthetic annulus suffice to reconstitute the annulus.² Because the vital structures of the atrioventricular (AV) groove fall posteriorly, the visualization of the top of the left ventricle where it abuts the annulus allows the placement of sutures deep into the muscle without injuring the AV groove vessels.

I have used this technique in 38 patients, 19 of whose results were previously reported.³ The mean age was 73 years (range 56-84 years), and the mean circumferential calcification requiring debridement was 157° (range 45°-330°). Six patients had mitral repairs; 32 had replacements (17 St Jude Medical [St Jude Medical, Inc, St Paul, Minn], 15 porcine). At the time of operation, 2 patients were noted to have a posterior AV groove hematoma: 1 resolved without treatment, and 1 patient died 1 month postoperatively of multiorgan failure but the hematoma could not be shown to be a contributing factor. Four other patients died. None of the deaths were related to the annular decalcification. No patient developed a paravalvular leak. No patient suffered injury to the circumflex coronary artery or the coronary sinus.

This technique may be underappreciated and underused. I have been frustrated by attempts to excise the calcified bar as described by Carpentier and colleagues.⁴ It has seemed to be sufficiently imbedded in the annulus and adjacent structures that I feared damaging the circumflex coronary artery or great coronary vein/coronary sinus. The very gentle debridement rendered by the ultrasonic aspirator makes it a valuable tool that I continue to use and recommend. Its ability to pulverize selectively the hard calcified tissue without injuring soft tissue permits safely attaining complete pliability in the annular region. As Feindel and colleagues¹ made clear, a major concern of any procedure to remove the MAC is

the potential of AV separation, and considerable care must be taken in the reconstitution of this area.

Thomas J. Vander Salm, MD
Massachusetts General Hospital
and North Shore Medical Center
Salem, MA 01970

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Reply to the Editor:

I would like to thank Dr Vander Salm for bringing this unique method for managing extensive mitral annular calcification to our attention. Although we have no experience with the use of ultrasound decalcification, it appears to be a very useful method in these cases. Surgeons who have such ultrasound devices available to them should consider using them to remove the calcium bar. Any method that reduces the risk of operating on these patients is welcomed. There are good reasons why some have referred to the calcium bar in the mitral annulus as the "Bar of Death."

Chris Feindel, MD, CM
The Munk Cardiovascular Centre, University
Health Network and the University of Toronto,
Toronto, Ontario, Canada
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Early failure of bovine jugular vein conduits

To the Editor:

We read with great interest the article by Boudjemline and colleagues¹ recently pub-

lished in *The Journal of Thoracic and Cardiovascular Surgery*. They describe the early results of the bovine jugular vein conduits placed in the right ventricular outflow tract. The event-free survival curve was less than 70% at only 3 months after surgery. There was 1 late death related to the conduit, 1 episode of thrombus formation that required heparin therapy, and another 3 patients required conduit replacement at a mean interval of 4.3 months after the initial operation. An interesting finding was an aneurysmal dilation of the distal portion of the conduit.

Our experience has been similar to that of the authors. Three patients required conduit replacement at 16, 18, and 25 months after the initial operation. All patients had a significant gradient between the right ventricle and the pulmonary artery branches, mainly the left main pulmonary branch; an aneurysmal dilation of the distal conduit occurred in 2 patients and varying degrees of pulmonary insufficiency occurred in all. Conduit diameters were 12 mm in 2 patients and 14 mm in the other patient. All patients were on antiaggregant therapy, which is our standard management protocol for grafts.

Findings at surgery were disappearance of the conduit valve, presence of a huge aneurysmal dilation of the conduit in 2 cases, and extensive fibrosis at the conduit-pulmonary artery anastomotic line in all. This particular finding is of extreme importance, since our patients, as well as 2 patients in Boudjemline's article, have persistent residual pulmonary artery stenosis, despite extensive reconstruction during conduit replacement.

The bovine jugular vein conduit promised to be the conduit of choice for use in neonates and infants due to its excellent handling properties, but these early and midterm complications should raise a note of caution on its use.

Claudio Zavanella, MD
Francisco Portela, MD
Pediatric Cardiac Surgery Section, Complejo
Hospitalario Universitario Juan Canalejo,
A Coruña, Spain

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