Letters to the Editor

The Editor welcomes submissions for possible publication in the Letters to the Editor section that consist of commentary on an article published in the Journal or other relevant issues. Authors should:

- Include no more than 500 words of text, three authors, and five references
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Reply to the Editor:

We thank Rea, Marulli, and Sartori¹ for their kind comments and insightful remarks in the February 2007 issue of the *Journal* concerning our report on superior vena cava (SVC) replacement with a heterologous (bovine) custom-made pericardial prosthesis.²

SVC surgery is becoming an interesting field of study, particularly with reference to indications for this kind of surgery and to resection and reconstruction techniques depending on the degree of venous infiltration and the surgeon's attitude.

Regarding the first point, we agree with Rea, Marulli, and Sartori about the indications for SVC surgery being very limited. Candidates' selection for this kind of operation remains the main factor to obtain good surgical results. From our experience,³ these candidates should be less than 70 years old, with a predicted postoperative forced expiratory volume in 1 second of more than 40%, no major cardiac comorbidity, and an American Society of Anesthesiologists score of 1 or 2. From an oncologic point of view, patients with SVC involvement should be carefully selected: we have restricted surgical indications to patients with T4 N0/N1 disease after induction chemotherapy.

Concerning technical aspects of SVC surgery, we concur with Rea, Marulli, and Sartori about the type of SVC resection. As we³ recently reported in our single-center experience with SVC surgery, we think that when vessel involvement is less than 50%, resection and direct repair (by tangential clamping and simple running polypropylene suture or vascular stapler) is preferred. When the SVC is not circumferentially resected, it may be crossclamped and repaired by an autologous pericardial patch.

When SVC infiltration involves more than 50% of the vessel circumference and a circumferential resection is performed, a prosthetic replacement by a crossclamp technique is required. Even though we³ used a synthetic prosthesis (polytetrafluoroethylene graft) in our earlier report, we

have abandoned this material for SVC reconstruction owing to its high risk of thrombosis.⁴ We concur with Rea, Marulli, and Sartori that autologous pericardium represents an ideal material for the reconstruction of the SVC and we also congratulate them for their results in this very difficult group of patients.

Autologous pericardium has a number of advantages (biocompatibility, adequate resistance, cost free, availability), but it is difficult to handle. It shrinks and curls after suturing and stretches after venous pressure is restored, requiring trimming to the appropriate size. In addition, when a wide pericardial resection is required for oncologic reasons, the pericardium may be not sufficient for the conduit reconstruction and the pericardial defect may cause postoperative arrhythmias. Some authors⁵ have treated autologous pericardium with glutaraldehyde to improve tissue stability and preserve the pericardial patch, but that has been shown to damage connective tissue, predisposing tissue to mineralization.

For these reasons, since 2003 we have adopted heterologous (bovine) pericardium for constructing an SVC prosthesis. This material has several advantages: it is fully biocompatible and stiffer than autologous pericardium, eliminating technical problems (shrinking and stretching), its patency remains satisfactory over time, and it carries a lower risk of infection and thrombosis.

In conclusion, we believe that the replacement of the SVC by a bovine pericardial conduit is an excellent solution in selected cases, even if its efficacy should be confirmed by a large study.

Domenico Galetta, MD^a

Lorenzo Spaggiari, MD, PhD^{ab}

Division of Thoracic Surgery European
Institute of Oncology
University School of Milan
Milan, Italy

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