Thoracic aortic endografting facilitates the resection of tumors infiltrating the aorta

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See related article by Collaud et al in the April 2014 issue (*J Thorac Cardiovasc Surg.* 2014;147:1178-82).

Collaud and colleagues¹ report their experience of using thoracic aortic endografting to help facilitate resection of tumors infiltrating the aorta. They describe 5 patients who underwent off-label use of thoracic endovascular stent graft placement before multistage resection of the lung, chest wall, ribs, and vertebrae. Of the 5 patients, 2 had sarcoma and 3 had lung cancer.

Cardiopulmonary bypass was avoided in all patients. The patients underwent complete resection in 2 to 3 stages. Four patients underwent lobectomy, rib resection, and spine resection. Two patients underwent full-thickness aortic wall resection with an exposed stent graft that was buttressed with pleura in 1 patient and bovine pericardium and latissimus dorsi muscle flap in the other. The median delay between thoracic endovascular aortic repair (TEVAR) and resection was 5 days, the median length of stay was 16 days, and the median follow-up was 39 months. Two patients required additional vascular procedures after TEVAR placement secondary to occlusion of the subclavian and/or left carotid arteries. All patients had undergone R0 resection on the final pathologic examination. Only 1 patient had a major complication of empyema and bronchopleural fistula with persistent hemoptysis requiring suppressive antibiotics. It is unclear whether this patient had an infected endograft.

Their report represents an interesting off-label use of TEVAR before oncologic resection of cancer. The major advantage of this approach was the avoidance of cardiopulmonary bypass and the associated anticoagulation. The TEVAR graft blocks off the intercostal arteries, minimizing blood loss. It is interesting to note that only parietal pleura was used for coverage after complete resection of the aortic wall in 1 patient. The authors do not report any aneurysm formation at the site of aortic resection, but this would be an important concern. It is unclear why patient 5 had

pathologic involvement of the aorta and required full-thickness resection of the aorta but the cancer was staged as a T3 tumor.

There is no comparison with conventional methods of resection using cardiopulmonary bypass in terms of blood loss, complications, length of stay, and disease-free survival, which would substantiate this off-label use of TEVAR grafting. Others²⁻⁴ have reported their series using conventional methods with excellent results. The utility of TEVAR grafts when only the adventitia has been resected is also debatable. One must also consider the additional cost of these multiple procedures. These data were not presented. Therefore, the usefulness of using the additional procedures and resultant added costs to address this clinical scenario is questionable.

As surgeons continue to be divided into subspecialties, this report demonstrates the need for communication among specialists. This method overlaps at least 3 specialties. As medicine continues to force practitioners into a more narrowed focus, the ability to provide patients a complex solution will become more of a challenge. Practitioners need to understand fields beyond their own to address the complex problems of their patients. They cannot simply exist in a silo and ignore the progress that is occurring in other areas. This report demonstrates that coordination among specialists can yield a cohesive solution to a challenging problem.

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