In this issue of *The Journal of Thoracic and Cardiovascular Surgery*, Levack and colleagues1 at the Heart and Vascular Institute of the Cleveland Clinic, describe a 61-year-old male patient who had undergone open graft replacement of the ascending aorta and lesser curvature of the aortic arch (ie, hemiarch) for an acute DeBakey type I aortic dissection roughly 20 years previously. Subsequently, nearly a decade ago, he underwent thoracic endovascular aortic repair to treat a portion of his residual chronic distal aortic dissection. With time, an extensive 8.5-cm thoracoabdominal aortic aneurysm developed, involving the segment of the aorta that was not covered by the stent graft: the lower descending thoracic aorta extending to the aortic bifurcation and common iliac arteries. Importantly, a preoperative review of computed tomographic (CT) imaging identified a duplicate inferior vena cava (IVC), with the left side substantially larger than the right. The aneurysm was opened and anatomically reconstructed with a Dacron polyester fabric graft. The duplicate IVC was managed intraoperatively by mobilizing the left-sided IVC and tunneling the replacement graft into its proper anatomic location underneath the IVC.

Open thoracoabdominal aortic aneurysm surgery performed at institutions dedicated to this procedure can be carried out successfully with modest morbidity and mortality.2-5 In this case report, Levack and colleagues1 point out the importance of careful review of preoperative CT scanning to identify possible anatomic anomalies. In part, this is a reflection of the transition from the past use of routine preoperative arteriography to the contemporary use of CT angiography scanning and magnetic resonance angiography scanning to aid preoperative diagnosis and planning of open therapeutic repair. Importantly, CT scanning has the advantage of providing all the information that would be available on arteriography as well as the ability to identify anatomic anomalies such as described in this article. Levack and colleagues1 rightly point out the options that are available when encountering a left-sided IVC. These include cannulation of the left IVC should division of its crossing of the aneurysm be necessary. In addition, if the graft reconstruction is better positioned to the left-sided IVC, then naturally it would be the option of choice. If the left-sided IVC is relatively small, reconstruction may not be necessary. If, however, as in this case described by Levack and colleagues,1 the IVC is large and would need to be divided, reconstruction after completion of the aortic aneurysm repair would certainly be appropriate.

The importance of this article lies not in the specific operative techniques applied but rather in the importance of careful preoperative evaluation that includes a strategy to identify possible anatomic anomalies. Moreover, careful operative planning is needed to address anatomic anomalies, including the development of both a primary and secondary strategies for repair.

**Central Message**

Preoperative evaluation of imaging scans may identify anatomic anomalies. Care is needed to address anatomic anomalies, including the development of primary and secondary strategies for repair.

See Article page e39.

**References**


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