

Advantages, Disadvantages, and Early Results of the Next-Generation Medtronic Valiant Thoracic Endograft

NOTES

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The use of thoracic endovascular stent grafting systems has been studied since the “first generation” of homemade stent grafts in the early 1990s.¹ The EUROSTAR and United Kingdom Thoracic Endograft registries examined outcomes using second-generation endovascular devices and created benchmark points for future products.² The newest third-generation thoracic device, Valiant, produced by Medtronic, incorporates the feedback from over 100 physicians to create a new, advanced platform for treating thoracic aortic disease.

Advantages of the Valiant device include a greater variety of standard diameter, length, and configuration options than previously available on the market. With the removal of the connecting bar characteristic of second-generation devices, there is increased flexibility in the product, allowing its use in tortuous anatomic situations. Additionally, the product has springs sewn to the outside of the graft material, which may provide a better opportunity for tissue incorporation. The product is delivered on Medtronic's Xcelerant delivery system, which provides notable delivery control for the Talent AAA and AneuRx product lines.

Thoracic stent grafts generally suffer from large profile sizes that may present access difficulties. Valiant's outer diameter profile of 22 to 25, still represents a potential area of improvement for future generations of devices.

The first clinical experience with the Valiant device started in late March 2005 at our hospital. Early clinical experiences along with advantages and disadvantages of this new product will be presented in detail.

The Valiant endograft represents a unique approach to thoracic endovascular stent grafting that may provide greater applicability to patients with difficult anatomies, increased trackability and ease of use, better conformability of the graft to the aortic wall, and enhanced positioning accuracy.

References

1. Mitchell RS, et al. Thoracic aortic aneurysm repair with an endovascular stent graft: the “first generation.” *Ann Thorac Surg* 1999;67:1971-4.
2. Leurs LJ, et al. Endovascular treatment of thoracic aortic diseases: combined experience from the EUROSTAR and United Kingdom Thoracic Endograft registries. *J Vasc Surg* 2004;40:670-80.