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A Novel Way to Fenestrate a Type B Dissection Flap Using Electrocautery

Dylan McLaughlin
Henry Ford Health System

Scott Bendix
Henry Ford Health System

Judith Lin
Henry Ford Health System

Loay S. Kabbani
Henry Ford Health System

Novel Technique For Aortic Fenestration Using Electrocautery

Dylan McLaughlin ScM*, Scott Bendix MD, Marvin Eng MD, Loay Kabbani MD
*Wayne State University School of Medicine
Henry Ford Health System

INTRODUCTION

- Thoracic endovascular repair (TEVAR) is currently the therapy of choice for complicated type B aortic dissections (TBAD)
- Main goal of TEVAR is to cover the entry tear of the TBAD. This is usually distal to left subclavian artery. However, in most patients there are also distal tears that keep the false lumen open and perfused
- After TEVAR, 60-70% of TBAD patients have a type 1B endoleak from the distal tears
- Fenestration of the dissection flap proximal to visceral vessels at the TEVAR landing zone resolves any type 1B endoleak
- Typical fenestration technique uses a needle to cross the septum and a balloon to tear the septum

CASE SPECIFICS

- 59 yo male presented with an enlarging thoracic aneurysm secondary to TBAD (Figure 1).
- TX2 thoracic endograft (Cook Vascular) was deployed in thoracic aorta (Figure 2)
- After accessing the false lumen form the groin puncture, the dissection septum was crossed using a 0.014 Confienza wire
- The wire was snared and pulled out contralateral groin (Figure 3)
- We denuded a 1mm segment of 0.014 insulated Astato wire then positioned the denuded wire over septum and using electrocautery made a 3cm cut (Figure 4)
- We then deployed distal covered stent into the fenestrated septum resulting in a distal seal (Figure 5)

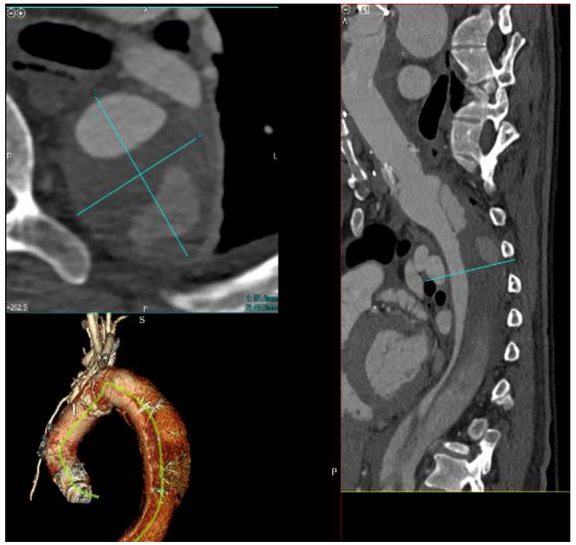

FIGURE 1. Enlarging thoracic aneurysm

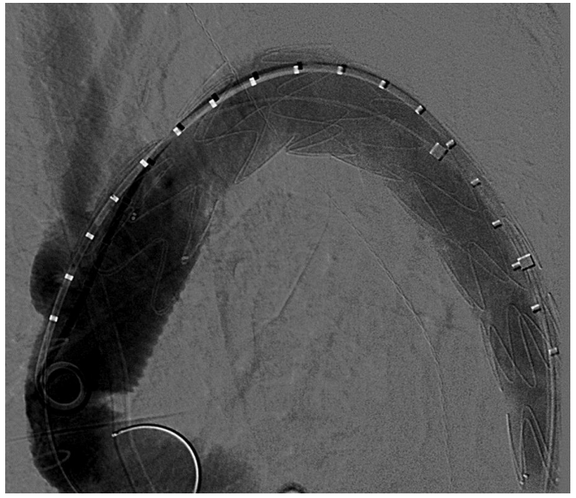

FIGURE 2. Proximal stent graft

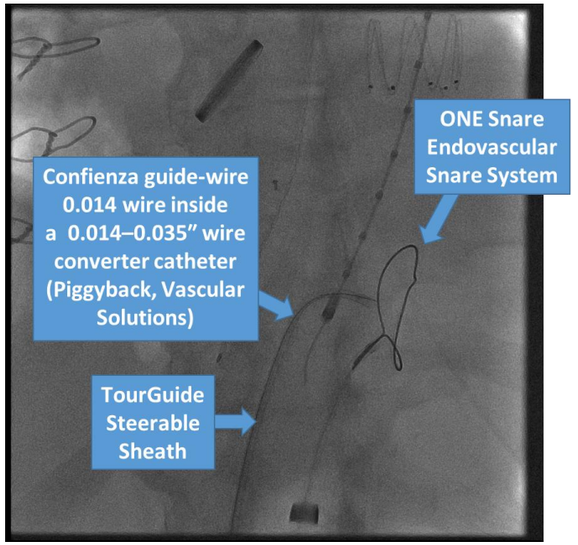

FIGURE 3. Snared wire across septum

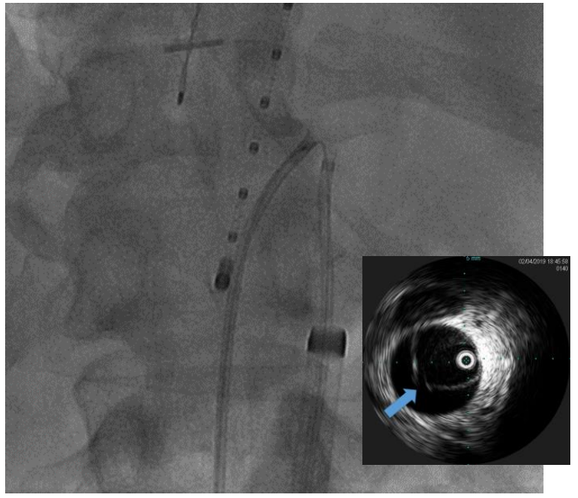

FIGURE 4. Electrocautery of septum

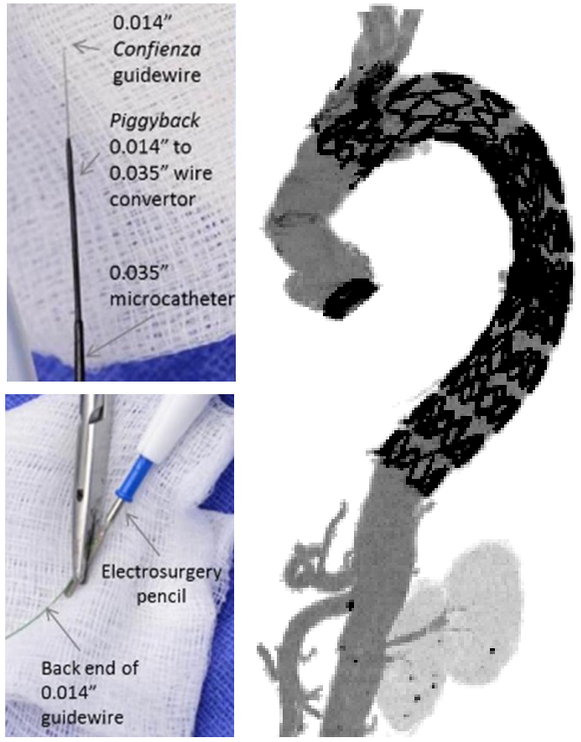

FIGURE 5. Electrocautery setup; Post-op CTA with no type 1B endoleak

CONCLUSION

- Use of electrocautery to fenestrate dissection flaps in TBAD is a feasible approach
- This novel method may provide more controlled fenestration compared to traditional needle and balloon dilation
- Further studies are needed to demonstrate long term success