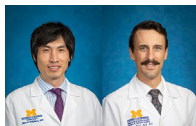


Dr Fukuhara serves as a consultant for Terumo Aortic and Medtronic Inc. Dr Yost reported no conflicts of interest.

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**REPLY FROM
AUTHORS:
ADJUNCTIVE
ENDOVASCULAR
OPTIONS FOR**

CHRONIC TYPE B AORTIC DISSECTION

Reply to the Editor:

Thoracic endovascular aortic repair (TEVAR) has been increasingly offered in patients with chronic type B aortic dissection (cTBAD). However, the most notable obstacle to achieving positive aortic remodeling is the presence of a thick aortic septum, which prevents elimination of the false lumen flow despite entry tear coverage. Therefore, the absolute benefit of TEVAR remains undefined. Historically, efforts have been devoted to endovascularly eliminating residual false lumen flow, primarily focusing on 2 approaches: one is obliteration of the false lumen using embolization techniques, and the other is creation of a single aortic lumen as optimized landing zones. Each technique has specific shortcomings and not suitable for all cTBADs. We recently reported a series of patients for whom aortic septotomy, either using laser and/or needle, was used to facilitate TEVAR for cTBAD.^{1,2} The most notable finding of the series is that aortic septotomy reliably eliminated the false lumen flow by allowing graft expansion to full apposition to the outer aortic wall. This ultimately resulted in the extremely high positive aortic remodeling rate even at 6 months' post-TEVAR.²

We have subsequently read, with great interest, the Commentary provided by Bozzani and colleagues describing a long-segment aortic septotomy they have used over the past 3 years, known as the scissor technique, in which the aortic septum is split by means of stiff wires and long sheath.^{3,4} The concept of this unique technique is in line with our aortic septotomy techniques. In our opinion, the limitations of the scissor technique include (1) requirement of creating reentry tear (s); (2) risk of aortic intimal detachment at an undesired location due to wire/sheath traction;

and (3) risk of intimal aortic intussusception with or without distal visceral malperfusion. Therefore, the technique should be performed by experienced hands such as Bozzani and colleagues. Our group recently abandoned any long-segment aortic septal traction maneuver by guidewires/catheters due to occasional adverse events related to aforementioned complications.

An additional recent noteworthy cTBAD TEVAR study is a series by Levack and colleagues,⁵ who reported excellent rates of technical success using the balloon fracture fenestration technique. They describe a technique of balloon expansion within covered aorta segment by aortic stent grafts, conferring improved apposition of the stent graft and mitigating flow into the false lumen. Caveats of the balloon fracture strategy include inability of aggressive balloon fracturing at the distal end of the endograft and inability to add any additional adjunctive aortic septotomy. Incompletely fractured aortic septum in the presence of already-deployed endograft becomes nonintervenable. Lastly, the risk of distal newly created "aortic dissection-in-dissection" by balloon fracture should not be underestimated.

In conclusion, the technique discussed by Bozzani and colleagues shares an important feature with our routine aortic septotomy strategy during TEVAR for cTBAD. The importance of these adjunctive procedures including balloon fracture technique are increasingly more recognized in the armamentarium for treatment of cTBAD. Understanding drawbacks of each approach and judiciously selecting treatment approaches based on each individual aortic pathology are the keys to successful clinical outcomes.

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