proposed as a first-line treatment. We agree with Botta and coworkers¹ that left subclavian artery revascularization before endograft repair should be done to prevent neurologic complications. For hemodynamically stable patients, with an aortic transection located within the proximal landing zone length necessary for adequate fixation (<20 mm), we would not propose conventional open surgical intervention with revascularization of the left subclavian artery. Rather, we believe that a prophylactic transposition of the left subclavian artery can safely be performed associated with endovascular repair of the aortic transection.

Second, a delayed treatment increases the risks of three major complications: an unforeseeable risk of delayed free rupture of an initially stable aortic tear; (2) a progressive dilation of the involved aortic segment exerting compression on the trachea and the left main bronchus; and (3) the creation of a fibrous and calcified connection within the aortic wall itself, potentially modifying aortic compliance and compromising the success of endovascular treatment. A controlled hypotension may cause cerebral hypoperfusion among patients who have often had a cerebral trauma. In a hemodynamically stable condition, a delay in treatment of a few days, as we⁴ have previously reported, seems reasonable to treat the associated traumatic lesions. In our institution, we believe that endovascular management as soon as possible offers important advantages over a deliberate wait.

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doi:10.1016/j.jtcvs.2009.04.040

Reply to the Editor:

We thank Drs Canaud and Alric¹ for their interest and comments regarding the article "Endovascular Treatment for Acute Traumatic Transection of the Descending Aorta: Focus on Operative Timing and Left Subclavian Artery Management."² In their letter they disagree with the conclusion of our article, that "in presence of inadequate proximal landing zone, conventional open surgery still remains a favourable option as alternative to EVAR associated to surgical revascularization of the left subclavian artery."

Traumatic aortic rupture has always been a controversial topic because of its complex management and high mortality. We agree with Canaud and Alric¹ that endovascular repair should be proposed as the first-line approach in all cases of acute traumatic ruptures that need immediate treatment because of its proved lower morbidity and mortality with respect to open surgery. Nevertheless, we cannot forget some limits of this outstanding technique. The unknown lifelong durability of stent-graft materials, the long-term patency of carotid subclavian bypass, and the need of lifelong yearly x-ray monitoring are unsolved questions of endovascular techniques that cannot be underestimated, especially in young patients.

Accordingly, we adopt early endovascular repair in all traumatic injuries with clinical/imaging findings of

impending rupture or in patients who need immediate treatment of severe orthopedic or abdominal-associated lesions. Conversely, stable patients with unfavorable anatomy for endovascular repair may also have the choice of a low-risk open surgery. The concept of delayed surgery of traumatic aortic rupture started in the 1980s in the attempt to reduce one of the highest mortality rates in cardiovascular surgery; delayed surgery has been a great advance, abating the mortality rate from 30% to less than 10% in the published series. Our center has been a pioneer of this surgical strategy.³ Free rupture is reported to be less than 5%, patients can be safely monitored with computed tomography or magnetic resonance imaging, avoiding any risk of sudden aneurysm expansion and treated when clinical conditions allow a safe open surgical repair.⁴ In their letter, Canaud and Alric¹ also affirm that the success of endovascular treatment could be compromised when post-traumatic aneurysm becomes chronic: Our experience in this field started in 1997 with a patient with a chronic post-traumatic aneurysm, who is still safe and well. We did not observe any early and late treatment failure, regardless of the aneurysm age.⁵

The era of modern medicine and surgery offers multiple treatment options, each with its advantages and disadvantages, and every patient's individual clinical, anatomic, and human profile should be considered, avoiding absolute rules. In this view, the best option is, and always will be, to have more than one option.

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MANAGEMENT OF TRAUMATIC MANUBRIOSTERNAL DISLOCATION IN CHILDREN

To the Editor:

We read with great interest the article by Irani and colleagues,¹ highlighting the consequences (chronic pain, periarticular calcification with ankylosis, and significant deformity of the chest wall) of conservative management of sternal fractures in adult patients that may necessitate a more extensive procedure at a later date. Our interest has further increased in the article because we recently faced a dilemma regarding the “ideal acute management” of a child with traumatic manubriosternal dislocation (TMSD). We have performed an extensive literature search for the same and found conflicting reports. Wada and colleagues² support conservative management in children with TMSD as they argue that the joint remodels with time, whereas Nijs and Broos³ operated on a child similar to ours. We decided to operate on our patient with a view to provide symptomatic relief and prevent chronic deformity.

Our patient is an 11-year-old girl who presented with pain and a “clicking sensation” in her chest wall 4 days after a fall on a flexed neck while on a trampoline. She was asymptomatic for 2 days before pain developed. The lateral chest radiograph showed

a posterior dislocation of the body of the sternum (Figure 1). This is the uncommon variety of TMSD (type 1).⁴ There were no other injuries.

The patient underwent operation via a 2.5-cm transverse incision over the manubriosternal joint. The hematoma was evacuated, and the anterior periosteum over the joint was opened. The sternum was then resutured to the manubrium with continuous 1 Pro-

lene (Ethicon, Inc, Somerville, NJ) suture. The joint was stabilized. Her postoperative chest radiograph showed that there was still some posterior subluxation of the sternal body; however, at the 8-week follow-up visit she was asymptomatic and had no noticeable deformity.

Two main types of TMSD have been described: type I, in which the body of the sternum is displaced

FIGURE 1. Lateral chest radiograph showing the manubriosternal joint dislocation (type 1 posterior dislocation of the sternal body).