OPEN VERSUS ENDOVASCULAR REPAIR FOR ACUTE TRAUMATIC THORACIC AORTIC RUPTURE To the Editor:

In the November issue of the *Journal*, Canaud and colleagues¹ wrote to compare 2 methods of acute traumatic aortic rupture repair. Comparison of these techniques is very instructive; however, their decision to abandon the traditional open technique and their recommendation to use endovascular stenting as a first-line approach are discordant with and irrelevant to the results obtained by the authors.

Despite an identical injury severity score for the 2 groups, a substantial selection bias resulted from the inclusion of 3 patients with free aortic ruptures, exclusively in the surgical group. This almost unsalvageable condition has been responsible for 3 operative deaths and for 3 of 4 in-hospital deaths reported with the open technique. Interestingly enough, statistical analysis failed to disclose any difference in in-hospital mortality between the 2 groups. The exclusion of these 3 moribund patients for a more objective comparison would have reset the in-hospital mortality in the open group to 3.1% (1 of 32 patients). In addition, no cases of paraplegia were reported. For obscure reasons, these outstanding results obtained with the traditional open technique were not emphasized by Canaud and colleagues,¹ leaving the reader under the impression of a

sudden stampede for a new uncertain technology without clear arguments to support this change.

This typically younger patient population deserves a safe, durable, and definitive aortic repair.² As Canaud and colleagues¹ agree, these 2 goals can only be reached in an experienced center. Other authors who have used a highly standardized open surgical technique have published similar excellent results. Bouchard and associates,³ in a series of 97 patients protected with a partial right heart bypass, reported a 4% in-hospital mortality and no cases of paraplegia. In my own experience⁴ of 114 consecutive patients with an acute traumatic rupture of the descending thoracic aorta (median injury severity score of 42.5), the in-hospital mortality was 3.5% (4 of 114 cases), and no ischemic spinal cord deficits occurred in the 110 patients who reached the operating room with an intact spinal cord. Similarly to the series of Canaud and colleagues,¹ all these patients were protected with a partial left heart bypass with either minimal or no systemic heparinization.

A suspected lack of standardization of the technique of operative repair in many series has resulted in a variability of surgical results, opening the way to endovascular grafting. When analyzing the results reported by Canaud and colleagues,¹ this argument does not apply to their group. For this reason, I personally have great difficulty in understanding their thought processes in taking this sudden new turn and recommending the use of stent-grafting as a first-line approach. This appears to me to completely contradict the conclusions published by the same authors⁵ in another article found in the same issue of this *Journal*, "Surgical conversion after thoracic endovascular aortic repair."

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Reply to the Editor:

We appreciate Verdant's comments regarding our recent work, "Open versus endovascular repair for patients with acute traumatic rupture of the thoracic aorta"¹; however, we dispute his assertion that we claimed that open repair should be abandoned. Our experience did demonstrate that endovascular repair is associated with both a lower rate of morbidity and a lower mortality. Our results are concordant with the results of the prospective multicenter study of the American Association for the Surgery of Trauma,² which concluded that endovascular repair is associated with significantly lower mortality and fewer blood transfusions.

The results of our study thus have prompted us to consider endovascular repair as the first-line therapy for acute traumatic rupture of the thoracic aorta. For patients in hemodynamically unstable condition, endovascular repair should be considered first. For patients in hemodynamically stable condition, however, we believe that the preoperative morphologic evaluations should aim to assess aortic anatomy and thereby detect possible technical limitations (aortic diameter <20 mm, severe aortic isthmus angulation, short proximal aortic neck

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