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Commentary: What about immediate thoracic endovascular aortic repair in all type B acute dissections?

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In their article titled “Aortic Enlargement in Two Weeks Is Associated With Subsequent Aortic Events in Patients With Type B Acute Aortic Syndrome,” Miyoshi and coworkers¹ analyze the very precocious aortographic elements that may predict the occurrence of late severe aortic adverse events.

The aim of this study is rather interesting and could, as stated by the authors, help in defining and choosing the more appropriate treatment during the early period of hospitalization. However, this study, although rather convincing, may keep the readers somewhat intrigued concerning some points.

The first question concerns the recruitment of the patients included in the study. The used expression “type B acute aortic syndrome” covers 2 quite different entities (type B dissection and intramural hematoma).

In addition to the size and dilatation degree of the aorta, absence or thrombosis of a false lumen is a crucial factor for predicting clinical outcome as assessed by the authors themselves: “In comparison with patients with TBAD with patent false lumen, those having IMH characterized by the absence of intimal tear and continuous flow communication have better short- and long-term prognoses than patients with AD. Compared to patients with AD, patients with IMH have less opportunity of branch occlusion and subsequent malperfusion and more chance of aortic remodeling.”¹

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Disclosures: The author reported no conflicts of interest.

The *Journal* policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

Received for publication Sept 17, 2021; revisions received Sept 17, 2021; accepted for publication Sept 17, 2021.

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J Thorac Cardiovasc Surg 2021; ■:1-2

0022-5223/\$36.00

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<https://doi.org/10.1016/j.jtcvs.2021.09.033>

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CENTRAL MESSAGE

Could the systematic use of thoracic endovascular aortic repair techniques in all patients improve the late results in noncomplicated type B acute dissection?

In the present study, it appears that one-fifth of the patients (36) with uncomplicated type B acute aortic syndrome had moderate aortic enlargement at 2 weeks from onset and that moderate aortic enlargement as defined by the authors was associated with aorta-related adverse events.

It is also indicated that during follow-up, 51 patients (28%) experienced aorta-related adverse events, including severe aortic dilatation, aortic rupture, redissection, and distal malperfusion, and required surgical or endovascular repair.

If we consider that only 36 patients had moderate dilatation and were possibly at risk of some late aorta-related adverse event, it means that a certain proportion of the 147 patients who had no or only mild aortic dilatation also experienced an unexpected late adverse event.

Unfortunately, the authors do not indicate the initial pathological entity of those patients (acute dissection or intramural hematoma) and in which proportion. This could represent useful and important information in terms of treatment decision and long-term follow-up. If most of those patients initially had a “noncomplicated, nondilated” intramural hematoma, it is probable that nothing much could be added to their initial therapy.

If, however, most of those patients, as it might seem probable, belonged to the group with type B “uncomplicated and not dilated” dissection, it could mean that the initial therapy and surveillance applied in those patients are not totally relevant and that the initial therapeutic approach could be modified.

Would it be, then, totally irrelevant and inappropriate to systematically treat all the patients referred in emergency for “type B acute aortic dissection,” including the noncomplicated, nondilated with an aortic diameter less or more than 40 mm and local appropriate anatomy, with thoracic endovascular aortic repair techniques?

Perhaps the future will give the answer.

Reference

1. Miyoshi Y, Kaji S, Masumoto A, Kim K, Kitai T, Kinoshita M, et al. Aortic enlargement in two weeks is associated with subsequent aortic events in patients with type B acute aortic syndrome. *J Thorac Cardiovasc Surg*. 2021. XXX:XXX.