Commentary: Time is the only thing

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Central Message

Expedited surgery is recommended for the treatment of type A aortic dissection, even in the presence of a neurologic injury.

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In the current issue of the Journal, Chiu and colleagues¹ present their 10-year experience with patients affected by a type A aortic dissection (TAAD) with concomitant neurologic injury at presentation. Certainly, this scenario is not very appealing, given that patients with preoperative neurologic injury are at risk for dramatic hemorrhagic sequelae.^{2,3} Is it better to perform an expedited aortic repair or to wait and see? The answer is not clear, and data from literature are controversial.²⁻⁴ In addition, patients affected by TAAD with neurologic injury at presentation are not rare. International Registry of Acute Aortic Dissection data documented that 10% of patients with TAAD have the complication of major neurologic injury at onset of the aortic dissection, with a 2- to 3-fold increased risk of perioperative mortality.² Interestingly, even if an expedited aortic repair was demonstrated to be a protective factor against hospital mortality, 50% of these patients are refused surgery.² More importantly, a not negligible proportion of these individuals (>75%) regained normal neurologic function. The series of Chiu and colleagues¹ is thus another important piece of the TAAD puzzle. Although their cohort of patients is limited in number, important and valid messages can be derived.

Although the study of Chiu and colleagues¹ confirms that patients with TAAD affected by neurologic injury represent a high-risk category of individuals, this should not reinforce the idea that refusing surgery is a good idea. Would they survive without surgery? The answer is clearly negative, and the negative fate of medically treated TAAD has been well known for decades.⁵ For most of these patients, there is no alternative to an expedited surgical repair, and the cardiac surgeon is their unique option.

Another important aspect of the study of Chiu and colleagues¹ is represented by the rate of intracranial hemorrhage after surgery. Chiu and colleagues¹ were able to repeat a postoperative computed tomographic scan of the brain in 21 patients with neurologic injury, and their

results highlight that only 2 (9.5%) had perioperative intracranial bleeding. Among the remaining 29 patients who did not undergo postoperative brain imaging, 24 had complete or partial resolution of the symptoms, and it is therefore unlikely that they had intracranial bleeding.¹ The risk of cerebral bleeding could be considered one of the main reasons to delay the aortic surgery, but this study clearly shows that there is not much behind this assumption.

Probably, and more importantly, the only significant neurologic predictor of in-hospital mortality identified from this experience was the evidence of obtundation or coma at presentation.¹ This observation is consonant with data from the International Registry of Acute Aortic Dissection, in which return of brain function is lower in patients with coma than in those with other neurologic deficits.⁴

Chiu and colleagues¹ rightly wrote that “neurological injuries are not all created equal,” and the extension of the symptoms should be carefully evaluated before planning complex aortic surgery. Certainly, such other concomitant factors as age,⁶ signs of malperfusion,⁷ and even the surgical center of referral⁸ should be taken into account when planning surgery for TAAD, but we can undoubtedly affirm that an expedited surgical approach should be considered for all patients with TAAD and should not be denied on the basis of a concomitant neurologic injury alone.

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