

help predict which patients with acute TBAD have the best chance of long-term success with TEVAR treatment. The concept of risk stratification of individual patients at the time of presentation—on the basis of both clinical and anatomic characteristics of the aortic dissection—will continue to evolve and to help optimize outcomes of TEVAR for acute TBAD. Calculation of aortic tortuosity index in patients with acute TBAD not only will potentially help in optimal patient selection for TEVAR procedures but could also influence intraoperative treatment strategies. For example, clinicians may choose to modify their intraoperative TEVAR strategy in patients with a high aortic tortuosity index. Additional interventional techniques, such as extension of the length of total aortic coverage with TEVAR, addition of a bare metal stent in the true lumen distal to the TEVAR, or distal landing

zone optimization to increase circumferential coaptation of the TEVAR device to the aortic wall, may be pursued in the subset of patients with acute TBAD who have a high aortic tortuosity index.<sup>4</sup>

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## Commentary: Is it possible to predict the evolution of false lumen in type B aortic dissections treated by thoracic endovascular aortic repair?

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History teaches us that the possibility of predicting the future has always been a fascinating and at the same time utopian idea for mankind and, in particular, for scientists. In 1555, the French astrologer and physician Michel de Nostredame, familiarly latinized as Nostradamus,



The “aortic version” of the Nostradamus book *Les Propheties*.

### CENTRAL MESSAGE

The degree of the angulation of the aortic arch could be a valid parameter to predict the false-lumen thrombosis in type B aortic dissection treated by thoracic endovascular aortic repair.

published the book *Les Propheties*, a collection of 942 poetic quatrains allegedly predicting future events.<sup>1</sup> In the wake of Nostradamus, the seemingly unrealizable idea of foreseeing future events in medicine has never been completely abandoned. In fact, imagine that we have the ability to predict the future. As doctors, we could examine a patient and predict a disease or complication, preventing

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unfavorable outcomes. What would happen to medicine in a world where people can see into the future? It is surely would be awesome—and it is soon to be less futuristic as it seems at first glance. In fact, from this point of view, we are making significant steps in science, and in medicine in particular, toward this end. To figure this out successfully, among a number of apparently healthy patients, it is necessary to understand which ones are heading toward a wrong path. Doctors and surgeons revert to their years of experience to do this on an anecdotal basis; research, however, also based on retrospective and prospective studies, can perform this prediction more effectively and efficiently. Nowadays, doctors can benefit from the huge experience derived from studies on millions of patients they have never met. The more data are collected, the greater is their predictive power, and thus treatment can be more precise for personalized medicine.

This is, in part, the ambitious goal of Li and colleagues<sup>2</sup> in their study in this issue of the *Journal*, in which they try to evaluate the predictors of false-lumen (FL) thrombosis after thoracic endovascular aortic repair (TEVAR) in type B aortic dissection. It is commonly known that a persistent perfusion from distal entry tears, with consequent patency of the FL, leads to late FL expansion during follow-up in 30% of patients treated with TEVAR who require additional procedures.<sup>3,4</sup> Moreover, FL patency has been associated with poor long-term survival in patients with chronic type B aortic dissection,<sup>5</sup> whereas thrombosis of the FL may be an independent predictor of stable aortic dimensions, as stated by Kamman and associates.<sup>6</sup> On the basis of this assumption, Li and colleagues<sup>2</sup> try to find out whether the FL thrombosis after TEVAR can be predicted accurately by an index that expresses the degree of aortic arch angulation. Through the analysis of postoperative computed tomographic images of 48 acute type B aortic dissection, and starting from the assumption that the aorta has the shape of a “question mark,” Li and colleagues<sup>2</sup> introduced a new angle—the degree of the “question

mark”—to indicate the aortic morphology. Li and colleagues<sup>2</sup> based their study on the hypothesis that the aortic arch angulation may depend on the degree of postoperative FL thrombosis of type B aortic dissection of patients treated by TEVAR. Their message is that the degree of the “question mark” may be a good predictor for FL thrombosis and that the higher the “question mark” degree, the less likely it is for a complete thrombosis to occur. To our knowledge, in the medical literature, the article of Li and colleagues<sup>2</sup> is the only one to have proposed the degree of angulation of the aortic arch as a predictor of FL thrombosis in type B dissections treated with TEVAR. From this standpoint, this article introduces a new predictor parameter. As correctly reported in the section on limitations of the study, Li and colleagues<sup>2</sup> do not take into consideration the number, localization, and size of the distal entry tears, which are directly correlated with the FL perfusion. Despite these missing parameters, the study could be able to predict FL thrombosis, anticipating and allowing prevention of adverse events and late complications after type B aortic dissection.

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