Are all patients subject to the same follow-up after type A dissection repair?

Charles M. Wojnarski, MD, MS

From the University Hospitals Cleveland Medical Center, Case Western Reserve University, Cleveland, Ohio.

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Address for reprints: Charles M. Wojnarski, MD, MS, University Hospitals Cleveland Medical Center, 11100 Euclid Ave, Cleveland, OH 44106 (E-mail: charles.wojnarski@uhhospitals.org).

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Charles M. Wojnarski, MD, MS

Central Message

After type A dissection repair, patients with significant atherosclerotic burden on histopathologic examination may be at increased risk of nonaortic cardiovascular events at follow-up.

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An attempt to understand the underlying variability in the presentation of disease underpins every research endeavor in medicine. To study the variability of individuals in a population, we must establish variables that differentiate patients from one another. Over time, we can develop a similar distribution of variables that can be used to group patients of a similar phenotype; that is, patients with the same disease who have similar physical manifestations of disease.¹ Finally, understanding the influence of these findings on clinical outcomes guides our ability to tailor our surgical approach to individual patients.

Leone and colleagues² describe the histopathologic specimens of 158 patients who underwent surgical repair of type A dissection at a single institution over a 13-year period starting in 2000. The authors classify the specimen as either degenerative or mixed degenerative-atherosclerotic and compare baseline characteristics and several clinical outcomes through a 6-year follow-up. They use a multivariable regression to adjust for several key baseline differences between groups.

After adjusting for differences between groups, they found no difference in mortality or aorta-related events through their midterm follow-up. They did note a small difference in nonaortic cardiovascular events through 6 years. Another interesting finding in their Table E2² was that atherosclerotic changes were found at almost all intramural hematomas compared with only half of type A dissections (91% vs 53%; $P = .023$).

The study is limited by the small number of patients in each group. This lack of power impedes our ability to understand the true clinical implications of the classification system imposed by the Society for Cardiovascular Pathology in 2015 and the Association for European Cardiovascular Pathology in 2016. Once differences between groups were adjusted for with a multivariable model, the statistical significance of the difference in outcomes between the 2 groups becomes marginal.

Despite the lack of tangible clinical implications of the study, it does reiterate that patients with atherosclerotic

ascending aortic changes who have type A dissection are at increased risk for nonaortic cardiovascular events. In emergency settings, these patients often do not undergo coronary angiography. Several studies have shown a lower incidence of coronary artery disease in patients with thoracic aortic disease compared with those with more distal aortic pathology.^{3,4} However, the incidence of coronary disease in older patients with type A dissection occurring in the background of significant atherosclerosis is not trivial (23% in the current series).

After recovering from type A dissection repair, patients with mixed degenerative-atherosclerotic pathology should undergo a thorough cardiovascular risk assessment and age-appropriate screening because they are at higher risk of nonaortic complications compared with their counterparts with degenerative etiology for type A dissection.

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