

**TARA****Life Science Center for Survival Dynamics
Tsukuba Advanced Research Alliance****TARA Seminar***** The seminar will be given in English.**

De Novo Elastic Fiber Synthesis in Chronic Aortic Dissection

11:00 ~ 12:00, Thu., March 21st, 2024**Conference room, Building A, TARA Center****澤田 悠 先生****Hisashi Sawada, MD, PhD**

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Abstract

Aortic dissection (AD) is a vascular disease characterized by a tear within the aortic wall forming a false lumen. ADs confined to the descending aorta are classified as Stanford type B and are typically managed conservatively during the acute phase. However, residual dissected aortas may lead to complications, such as aneurysm and rupture, necessitating surgical intervention in many patients in the chronic phase. While previous studies have extensively explored the mechanisms of acute ADs, including their initiation, the unpredictable nature of AD onset highlights the importance of studies focusing on the post-AD phase, particularly aortic complications in chronic ADs. In our studies using β -aminopropionitrile (BAPN)-induced AD model mice, we found that the vascular wall of the false lumen had profuse de novo elastic fiber formation in the chronic, but not acute, phase. The de novo elastic fibers were thinner compared to normal elastic fibers, but the vascular wall elasticity was significantly elevated. Given the important role of native elastic fibers in aortic physiology, de novo elastic fiber synthesis is potentially protective, compensating for structural impairment of dissected aortas. I would like to discuss the potential of this pathological feature as a unique therapeutic target for the inhibition of aortic complications in chronic Stanford type B ADs.

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