Surgical strategies on acute type A aortic dissection

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Acute type A aortic dissection (AAAD), the most challenging catastrophic disease in cardiothoracic surgery, is a highly fatal disease associated with high morbidity and mortality, and emergent surgical treatment is recommended for all patients to repair the proximal aorta, preventing rupture and the consequent cardiac tamponade. Due to the long run of cardiopulmonary bypass and hypothermic circulatory arrest (HCA) employed during the surgery, coagulation, neural and end-organ function is badly compromised. The operative mortality can be up to 25%. Therefore, surgical treatment for AAAD requires strategies involving multiple organs.

From 2016 to 2018, we have performed surgery on over 250 patients with AAAD. During these period, we have developed two novel techniques for AAAD, “Aortic-clamp” technique and “Modified Island” technique, which can greatly avoid the complication of HCA and shorten the operation time. Excellent surgical outcomes have been obtained. The surgical mortality rate is around 3% and only one patient developed permanent neurological deficit. On our experience, surgical treatment is the first choice for AAAD. The keys in the operation is: avoiding the side-effect of HCA, preserving the end-organ function and shorten the operation time.