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Commentary: Measure twice, but cut early?

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CENTRAL MESSAGE

Mortality and major complications were rare in prophylactic proximal aortic operations for asymptomatic patients with ascending thoracic aortic aneurysm.

The incidence of acute aortic syndromes has increased despite a rise in elective aortic operations.[1] The size criteria for aortic intervention incorporates the understanding that structural integrity of the aorta deteriorates with increasing aortic diameter. This has led some to suggest that operating earlier for smaller aneurysms may reduce risk and help prevent emergency cases.[1-3]

Carlestål and colleagues[4] report their experience with prophylactic ascending aortic replacement in asymptomatic patients with median ascending aortic or root diameter of 55 mm. Immediate postoperative complications in this 262-patient cohort were low (0.76% mortality and 0.76% stroke within the first 30 days). No additional complications were reported up to 1 year. These data are longer term than what have been previously reported and further support the growing evidence that describes elective proximal aortic surgery within the realm of acceptable risk.

Given this improved surgical risk, the threshold to operate on a smaller aortic diameter may be lowered for a number of reasons. Aortic diameter correlates with the vessel's mechanical function.[5] In their updated study of 3400 patients, the Yale Aortic Institute found the inflection point to be at 52.5 mm.[3] Other studies have demonstrated that most patients presenting with type A dissection present with aortic diameters <55 mm.[6,7] Family history, symptoms, and genetic profile have also been proposed as alternative indicators of increased risk that may warrant earlier intervention.[8]

The timing of surgery is 1 issue, but there is also the issue of identifying those who would benefit from early intervention. What makes thoracic aortic disease most challenging is that patients are often asymptomatic and undiagnosed until dissection or rupture. Screening programs have been proposed and may benefit first- and second-degree relatives of patients with thoracic aortic disease, but the data are limited and younger relatives with familial disease may not be identified easily.[9]

Improved understanding of the natural history of aortic disease has shown us that predicting its progression will require a balanced understanding of genetics, phenotype, and symptoms as well as size. The role for early intervention will need to be clarified as data continue to accrue. The authors are to be congratulated for achieving excellent surgical results within a guideline-compliant cohort. These data provide reassurance that guideline-directed interventions can be performed safely.

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