Root replacement in acute dissection type A—A superior procedure?

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Central Message

Primary root replacement repeatedly has been proposed for acute aortic dissection. Nonetheless, the need for reoperation after less-invasive root procedures is low, at least over a 10-year period.

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Aortic dissection type A (AADA) has continued to be a challenging disease for surgeons. Despite improvements in the surgical armamentarium over the past decades, considerable early morbidity and mortality persists. Several studies have shown that after successful initial treatment there is still a relevant late mortality and also the need for reoperation in a proportion of patients.^{1,2}

Two main factors have been associated with the occurrence of late complications, ie, persistent perfusion of the distal false lumen and instability of the root with secondary dilatation or aortic regurgitation requiring reoperation. It has been known that patients with connective tissue disease are particularly prone to develop late aortic complications,¹⁻³ and particularly for this scenario, aggressive root replacement has become an accepted approach. In the past years there has been a trend toward proposing more aggressive surgery, ie, primary root replacement with or without valve preservation.

Nonetheless, at times there is discrepancy between proposals from single surgeons and the real-world scenario. In this context, Chiu and coworkers⁴ have analyzed the results of surgical treatment of AADA in a recent period. In a large cohort of patients with AADA, they compared the outcomes of primary root replacement with those of limited root repair. Early and late mortality was almost identical; thus, aggressive root replacement neither increased early mortality nor improved late survival. They did observe a greater incidence of need for reoperation after limited root repair, which they considered as a main conclusion.

Should surgeons thus be generally more aggressive with root replacement in the setting of AADA? The answer is not as easy as the title of the publication.⁴ The incidence of reoperation at 10 years postoperatively was less than 10% with less than 5% of patients at risk, limiting the clinical relevance of the analysis.⁴ The procedures done as “limited root repair” were not homogenous, further limiting conclusions that can be drawn from the findings.⁴ With the limited patient data and information on predissection aortic size, it is impossible to determine whether and what degree of

preexistent pathology predisposes to instability of the root.⁴ Finally, it is unclear whether the low mortality of composite replacement depends on the work of selected surgeons.

In drawing clinical conclusions from the analysis, it must be kept in mind that the goal of surgery in AADA is to avert the life-threatening consequences of the disease and keep the patient alive. Root replacement in this setting increases the complexity of the operation and in the current study did not show any positive effect on long-term survival.⁴

Thus, the general wisdom in treating AADA remains, in that aggressive root replacement with or without valve preservation may be justified in selected instances if the surgeon has experience in this form of surgery.^{5,6} Until new evidence is generated, the results of more conservative procedures have to be considered as sufficient in most instances, and the surgeon should not feel compelled to perform complex procedures in an emergency setting.

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