

Acute type A aortic dissection: significance of multiorgan malperfusion.

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Source

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OBJECTIVES

Acute type A aortic dissection (AAAD) remains one of the most challenging diseases in cardiothoracic surgery, and despite numerous innovations, early mortality still remains high. The aim of this study was to review the Emilia-Romagna experience in the treatment of AAAD and to evaluate the effect of malperfusion on mortality and morbidity.

METHODS

We examined data of 502 patients between January 2000 and December 2008, from the Emilia-Romagna Regional Registry of AAAD. The mean age was 62.4 ± 13 years and 66.5% were male. At presentation, various types of malperfusion syndromes (cerebral, cardiac, ileo-femoral, renal, mesenteric and spinal cord) were present in 103 patients (20.5%; malperfusion [MPS] group). Three hundred ninety-nine patients (No-MPS group) did not have pre-operative malperfusion. Arterial access for cardiopulmonary bypass was usually via the femoral artery (81.9%), while the axillary artery was used only in 14.7%. The aortic repair was performed using the 'open technique' in 348 patients (69.3%) and with aortic cross-clamping without circulatory arrest in 154 patients (30.7%).

RESULTS

Overall in-hospital mortality was 20.9%: 43.7% in the MPS group vs 15% in the No-MPS group ($P = 0.001$). The operative technique and the cannulation site did not influence post-operative outcomes. Multivariate regression analysis identified mesenteric (odds ratio [OR] 9.5, confidence interval [CI] 2.4-37.4; $P = 0.0012$), cardiac malperfusion (OR 3.7, CI 1.7-8.0; $P < 0.0001$) and shock (OR 2.1, CI 1.2-3.5; $P = 0.007$) as significant risk factors for in-hospital mortality after surgery for type A dissection. Patients who presented single-organ malperfusion had a mortality rate of 34.7%, which increased to 61.9% and to 85.7% if two or more than two organ systems were involved, respectively.

CONCLUSIONS

The results of the surgical treatment of AAAD are acceptable and mainly influenced by patient's status at presentation. Malperfusion of more organ systems makes the prognosis unfavourable and immediate proximal aortic repair may be sub-optimal. In these situations, alternative management strategies should be considered.