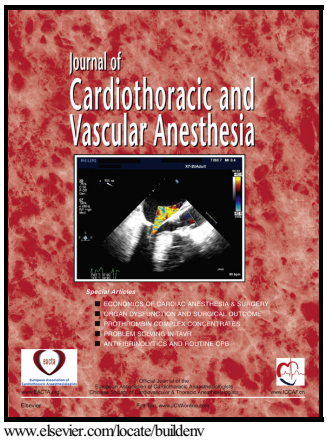

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The Perioperative Management of Endovascular Thoracoabdominal Aortic Aneurysm Repair

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TITLE

The perioperative management of endovascular thoracoabdominal aortic aneurysm repair.

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INTRODUCTION

The first surgical repair of an abdominal aortic aneurysm (AAA) involving the visceral vessels was reported in 1955.[1, 2] Subsequent reports by DeBakey and Creech led to decades of innovation in complex aortic surgery.[3, 4] Despite significant refinements in operative technique and perioperative care, the morbidity and mortality associated with surgical replacement of the thoracoabdominal aorta remained high. Some high volume centers report favorable outcomes with perioperative mortality rates between 4%-19%, however recent analyses of large databases reveal that contemporary results are less encouraging, with in-hospital mortality exceeding 20% and reaching 40% in the elderly population.[5-10] The significant morbidity and mortality associated with open thoracoabdominal aortic aneurysm (TAAA) repair is attributable to: 1) the need for radical surgical exposure that frequently necessitates invasion of both the thoracic and abdominal cavities; 2) physiologic stress associated with aortic cross-clamping including an increase in systemic vascular resistance and preload with potential for myocardial dysfunction; and 3) transient ischemia of tissue below the cross-clamp leading to ischemia-