Open repair of extensive thoracoabdominal and thoracic aneurysm: a preliminary single-center experience with femorofemoral distal aortic perfusion with oxygenator and without cerebrospinal fluid drainage.

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Thoracoabdominal aortic aneurysms (TAAA) and extensive thoracic descending aortic aneurysms (TDA) are not accessible through standard endovascular treatment. Fenestrated and branched endograft technology was developed rapidly without widespread application. The aim of this study was to review our open repair (OR) experience of TAAA and TDA. A total of 28 patients who underwent elective OR of TAAA or TDA between January 2001 and January 2009 were analyzed retrospectively. The mean age of the patients was 65.5 years (three women). The anatomic locations of the aneurysms were as follows: six in thoracic descending aorta and 22 in thoracoabdominal aorta (14 TAAA I, two TAAA II, six TAAA III). TDA (40 patients) available for ordinary endovascular treatment and TAAA IV (35 patients) were excluded from this study. To focus on spinal cord vascularization, 25 patients were submitted for angiography. Three patients suffering from back pain required quick treatment and were excluded from angiographic investigations. Angiography procedures were contributive in 23 patients (92%). Surgical repairs were driven through left thoraco-phrenolaparotomy, with the adjunct of distal aortic perfusion (femorofemoral bypass) including the use of an oxygenator and sequential aortic cross-clamping. Cerebrospinal fluid drainage was not used in this experience. The 30-day mortality rate was 14.3% (four of 28 patients): one multiorgan failure and three pulmonary sepsis. An immediate postoperative paraplegia occurred, affecting a patient with TDA who was previously submitted for infrarenal aorta replacement, despite angiographic identification and revascularization of intercostal artery destined to spinal artery. The 1-year survival rate was 82.1% (23 of 28 patients). In the preliminary experience of this study, OR of extensive TAAA and TDA with distal aortic perfusion and an oxygenator without use of cerebrospinal fluid drainage was associated with a significant perioperative mortality rate (14.2%), a reasonable rate of paraplegia (3%), and 1-year survival rate of 82.1%.

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