Preface

Current Development in the Surgical Treatment Modalities of Aortic Aneurysms

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This thematic issue covers the aneurysmal aspects of the aorta. The aim of this issue is to gather the recent development in epidemiology, pathophysiology, diagnosis, and treatment modalities of aortic aneurysms. The clinical visions from the contributors would be beneficial to both the surgeons-at-large and patients.

The paper by Carino et al analyzes abdominal aortic aneurysms (AAAs) in depth with respect to the following areas: (1) Is there an increase in the incidence of AAA? (2) Is the ultrasound screening program effective? (3) Etiology of AAA: gene versus environment; (4) Are the animal models of AAAs relevant; (5) Pathophysiology of AAAs; (6) Indications for surgery; (7) Are surgeons eager to operate? (8) Elective, open, or endovascular surgery? (9) Emergency: open or endovascular repair?

Dr. K. Maeda and Dr. T. Ohki discuss the latest data and technologies for the endovascular treatment of various aortic pathologies in detail. They provide an overview of the available devices and results of endovascular treatment for thoracic aortic aneurysm, descending thoracic aortic aneurysm, distal arch and aortic arch aneurysm, TEVAR for ascending arch aneurysm and type A dissection, acute and chronic type B dissection, thoracoabdominal aortic aneurysm (TAAA), total endovascular repair for TAAA, AAA, infrarenal AAA, ruptured AAA, and pararenal AAA.

Dr. J.S. Coselli et al focus on reoperative aortic root surgery in patients with Marfan syndrome. They discuss the incidence of aortic disease, associated cardiovascular complications, and surgical repair options. They describe the experience with reoperative aortic root replacement in patients with Marfan syndrome and provide an operative approach for these uncommon procedures.

Dr. F. Manneta has provided in detail, cerebral protection during aortic arch surgery with special focus on historical context, physiological rationale, and clinical efficacy of various neuroprotective strategies (hypothermic arrest and adjunctive cerebral perfusion).

Drs. A.K. Tassiopoulos and A.S. Ribner have shed light on aortic neck dilation during planning of endovascular AAA repair. Aortic neck dilation with most commonly available self-expanding endografts is well documented, which is multifactorial and an important parameter during the planning of endovascular repair of AAAs. They advise that consideration should be given for endograft selection, degree of oversizing, use of adjuncts that enhance fixation and sealing, and the option of open surgical repair, especially in patients with longer life expectancy.

Dr. D. Carino et al present in depth the short- and long-term outcomes of open replacement of the thoracoabdominal aorta at their institution. They have confirmed that the open replacement of the thoracoabdominal aorta can be performed in expert centers quite safely. The aortic pathologies do not influence the short- and long-term outcomes. Open surgery should still be considered the standard in the management of thoracoabdominal aortic disease.

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