Complex hybrid procedure of a type 1 TAAA with retroperitoneal chimney approach for TEVAR and carotid-subclavian bypass

The 71-year-old patient with a symptomatic thoracic-abdominal aneurysm type 1 de Bakey (6.4 cm thoracic, 5.9 cm abdominal) and aneurysm of right iliac artery (4.2 cm) was admitted to our casualty department. Clinically she complained of chest as well as progressive back pain. The patient had an imperative will for treatment. A previously untreated pheochromocytoma and a mammary carcinoma (pT1 G2 pN0), also myocardial revascularization (LIMA/RIVA) are known as serious accompanying diagnoses. Furthermore, a pronounced PAD with bilateral subtotal occlusion of the external iliac artery existed, an interventional transfemoral approach was impossible. A supplemental blood supply of the liver by the superior mesentery artery was detected, which gave us a distal landing zone of 4 mm over stenting the coeliac trunk. We decided to perform a hybrid procedure including a left carotid-subclavian bypass essential according to the left mammarian bypass and a right aorto-profundal bypass with a side-to-side chimney functioning as sheath. Under rapid pacing the implantation of two TEVAR stent grafts with overstenting of the left subclavian artery as well as the coeliac trunk followed. Afterwards the trans-brachial subclavian plugs occlusion and controlling angiography showed successful treatment. At ICU initially stable circulatory conditions turned to increased lactic acidosis. Because of transfusion-dependent blood loss into the retroperitoneal drains, an angiography and a CT abdomen showed a pronounced retro peritoneal haematoma without an active bleeding. Only a small Type IIb endoleak was detected. In suspected of acute liver failure, due to the persistently compromised coagulation and strongly elevated liver values, upper abdomen sonography was immediately performed and showed a well perfused hepatic artery. A strongly reduced heart index of 1.5 l/m² forced a highly dosed administration of inotropics. On the second postoperative day the patient underwent a ventricular fibrillation with maximum therapy, which rapidly degenerated into an asystole. Resuscitation measures were not enhanced because of actually limited prognosis.

Biography
Justus Gross is Head of the Department of Vascular Unit, Clinic for Cardio-Vascular Surgery, University Hospital Schleswig-Holstein, Germany. The main focus is set at aortic treatments, such as complete open, complete endovascular and complex hybrid procedures. Approximately 250 aortic cases are treated per year. The entire research group develops novel technologies according to stent-graft designs and finding solutions for endovascular treatment of the aortic arch.

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