the anastomosis with the subclavian artery, and the subclavian incision was closed.

The patient was extubated 2 h after admittance into the recovery room. Troponin I at 24 h was 0.04 IU/ml. On postoperative day (POD) 5, the patient presented with sustained hyperthermia. Blood cultures revealed methicillin-sensitive Staphylococcus aureus. The central venous access, still present at that time, was removed and examined, showing the presence of the same micro-organism. A double antibiotic therapy (methicillin and gentamycin) was immediately started. Unfortunately, evolution was marked on POD 10 by a septic thrombophlebitis of the right internal jugular vein. The patient underwent thrombectomy of the jugular vein under general anaesthesia, using a Fogarty™ catheter. A transeosophageal echography (TEE) was performed during the same procedure to eliminate a concomitant endocarditis. Further evolution was uneventful and the patient was discharged home on POD 21.

2. Discussion

Chronic heart failure continues to represent a challenge in patients who have to undergo associated surgeries, such as digestive, orthopaedic or abdominal aortic approaches. As a ventricular unloading catheter, the Impella® Recover® microaxial pump is appropriate for temporary circulatory assistance in severe left ventricle (LV) dysfunctions. Impella® Recover® LP50 has been designed for Seldinger technique implantation through femoral artery under local anaesthesia [1]. The device is simple to insert and does not require systemic anti-coagulation. According to the duration of the support, its indications are bridge to recovery, bridge to bridge in a too ill patient for conventional implantable LVADs, and bridge to transplantation when short waiting time is considered [1, 2]. When correctly positioned into the LV, it allows an optimal flow reaching up to 5 l/min. In the case of this patient, the Impella® Recover® LP50 seemed seductive since LV EF was poor, rendering the abdominal aortic replacement very risky. Yet, the implantation of the micro axial pump using a Seldinger technique was impossible in this case. For this reason, we decided to use the right axillary approach. We have recently described this technique for long-term implantations, to allow the patients rehabilitation before weaning [3]. In the present case, the postoperative course was free from cardiac failure and we didn’t note any perioperative myocardial infarct. Yet, the thrombophlebitis of the internal jugular vein is an uncommon complication but the secondary course was satisfactory.

In our opinion, the Impella® Recover® LP50 could represent an interesting weapon in the armamentarium of the cardiovascular surgeons in comparable situations.

References


eComment: Mechanical cardiac support and abdominal vascular surgery

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Congratulations to Dr. Farhat and colleagues [1] for this excellent idea to perform surgery of abdominal aortic aneurysm (AAA) with mechanical left ventricular support using the Impella microaxial blood pump in a patient with ischemic heart failure and low ejection fraction.

Implantation of endovascular prosthesis could be the only alternative treatment in this complicated case. Maybe a new endovascular stent graft device with a short proximal landing zone could have been used. Also, suprarenal stent-graft fixations for infrarenal AAA have been reported with good short- and mid-term results [2]. Implantations of fenestrated stent-grafts for infrarenal AAA with infrarenal anatomy unsuitable for a standard graft have been performed with a low complication rate [3]. Long-term follow-up data are, of course, still required.

The presented modified implantation technique of the Impella microaxial blood pump via right subclavian artery through a dacron tube is smart. Although placement of the microaxial pump into the ventricle under fluoroscopy is the standard procedure, I would suggest additionally intraoperative transeosophageal echocardiography (TEE) for control of device position in left ventricle and continuous observation of ventricular contractility and volume filling during surgery.

The greatest advantage of the device is its easy handling – the fact that this microaxial pump does not require full systemic anticoagulation. Disadvantageous are the quite high costs, especially for a short-time application, but in cases like the one presented, these costs are justified.

However, the described technique gives surgeons the possibility to operate patients with severe heart failure in comparable difficult situations.

References


eComment: Abdominal aortic aneurysm repair: endovascular treatment or surgical repair in critically unstable patients

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We read with interest the paper by Farhat et al. in which they presented abdominal aortic aneurysm surgery in a hemodynamically unstable patient with the mechanical support using the Impella microaxial blood pump [1]. We have only one simple concern: What was the contraindication for endovascular treatment and whether it should be done or not [2–5].

References


