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09.Dec.2013

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Cologne, 05.12.2013

## Operational report on the ARC400 high-frequency device - bipolar simultaneous coagulation

As the largest site amongst the clinics of the City of Cologne, the Merheim hospital is a maximum-care hospital and additionally the clinical center of Witten Herdecke University. The vascular surgery section is a technically independent area within the Clinic of Visceral, Vascular and Transplantation Medicine. It is responsible for the vascular surgical care of patients in the entire clinical center. There are around 25- 30 occupied beds, depending on demand. A total of 4 specialists in vascular surgery work in the section. With a focus on angiology, there is close collaboration with Medical Clinic II and the Clinic for Diagnostic and Interventional Therapy. Within this interdisciplinary Cologne-Merheim Vascular Center, conferences are regularly held on interdisciplinary therapy planning for patients with vascular diseases, so that the most personal and best possible treatment can be offered here. Furthermore, the vascular surgery section additionally focuses on the co-treatment of patients with terminal renal insufficiency through shunt installations and the implantation of dialysis catheters. Prompt vascular surgical care can also be guaranteed for patients with symptomatic carotid stenosis, who are primarily treated in the local Stroke Unit. In addition, the vascular surgery section takes on all of the consultancy work that occurs in a maximum-care hospital, such as that which occurs in the treatment of multiple-trauma patients.


Intravascular techniques are increasing in scale in modern vascular surgery. For this reason, a decision was made within the Cologne-Merheim Vascular Center to set up a division of labor to carry out percutaneous interventions in the Radiology Clinic. In this respect, in the case of operative peripheral revascularisation, the focus lies on distal bypasses, where ablative surgical measures are also required due to advanced gangrenous changes, for example.

This patient population is often characterized by serious concomitant diseases (diabetes mellitus, terminal renal insufficiency, coronary heart disease), which require an operative technique that minimizes tissue damage and saves time in order to minimize the general operational risk.

The use of the BOWA-HF device is very useful here, as work can be carried out in parallel using bipolar coagulation forceps. Thus two operating surgeons can expose the vessels at both the proximal and distal bypass entries, in order to then synchronously carry out the bypass anastomosis. The power output is sufficient for this subcutaneous preparation and guarantees a good operation site. For the patient, the operating time can be significantly reduced without increasing the complication rate, for example in the sense of secondary bleeding.

In total, around 400 peripheral arterial revascularisations are made in the vascular surgery section each year. The BOWA-HF device has been used in the last six months to our complete satisfaction. In the case of other operations using two work stations, rarer indications were covered, such as in the fitting of a dialysis shunt in the arm and a simultaneous implantation of a temporary central venous catheter that was also required.

From our experience, the simultaneous bipolar electro-coagulation function on offer makes everyday vascular surgery easier and thus serves to preserve classic operative techniques in peripheral revascularisation in an age that is characterized by the increasing use of intravascular techniques.



Prof. Dr. med. M. Aleksic