

TECHNOLOGY OFFER

Pressure-controlled Balloon Thrombectomy Device

The device JURY-LITE enables the control and recording of the balloon pressure of catheters used during thromboembolism. JURY-LITE can especially help junior doctors to manage such a surgery in less training time. Furthermore, it can improve patient safety and potentially lowers catheter related complications

BACKGROUND

Thromboembolism is the most frequently required emergency procedure in vascular surgery. In acute arterial occlusion, blood clots are commonly removed with the use of balloon catheters. At present, the pressure built up by the balloon is controlled by the operating surgeon on the basis of experience without the possibility of objective pressure control. Therefore, injuries to the vessel wall due to excessive pressure, especially by less experienced users are not uncommon, which can lead to complete vascular occlusion and the loss of a limb by amputation

TECHNOLOGY

The device JURY-LITE is in development on the basis of a closely related device named JURY, initially designed as a preclinical model for atherosclerosis, which enables display, control and recording of balloon catheter pressure in real time. The system consists of a stepper, driver, syringe, 3(4) F catheter and the software to control the stepper and the volume of the balloon (inflation pressure). The device uses a control circuit to hold a stable predefined balloon inflation pressure over the whole retraction distance and can record and display the catheter pressure curves in real time. In addition, a flow sensor will be integrated to measure the volume of the catheter balloon. Balloon catheter pressure, retraction speed and balloon inflating speed can have a negative effect on the success of the surgical intervention if critical values are exceeded. Based on the measurements of JURY and the development of JURY-LITE it is possible to optimize vascular surgery and minimize vascular damage to healthy areas. JURY-LITE can especially help junior doctors to manage such a surgery in less training time, improve patient safety and potentially lower catheter related complications.

ADVANTAGES

- Optimal training of junior doctors in short time
- Constant conditions during surgery independent of individual skills
- Advanced surgery monitoring
- Reproducible surgery results
- Increased patient safety

KEYWORDS:

CATHERETER DEVICE
ATHEROSCLEROSIS
THROMBECTOMY

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COOPERATION OPTIONS:

JOINT DEVELOPMENT
LICENSING

DEVELOPMENT STATUS: PROTOTYPE

STATUS OF PATENTS:
PATENT APPLICATION
PENDING
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