New start-up in Tübingen – CaveoMed develops innovative vascular occlusion system

“Thumbs-up” for a new alternative to pressure bandages!

(Stuttgart/Tübingen) – Tübingen-based CaveoMed GmbH has developed a vascular occlusion system that can be used to seal incisions such as those made in minimally invasive surgery with little risk to patients. The start-up from the STERN BioRegion is expecting to reach break-even point for its product within the next two years. The search is now on for further investors.

Minimally invasive surgery in vascular medicine substantially reduces risks for patients, as operations of this kind can be carried out without large surgical incisions and without opening up the ribcage. During cardiac catheter examinations, for instance, small, flexible tubes are inserted into the femoral artery. However, the incision must be sealed carefully after each examination with a pressure bandage, as the blood vessel is quite literally “under pressure”. Haemorrhaging is therefore a typical complication that can result from catheterisation procedures, for example if the pressure bandage slips out of place, especially where overweight patients are concerned.

Prof. Albertus Scheule, a heart and vascular surgeon at the University Hospital of Tübingen for many years, remembers his early days in the operating theatre well: "We were often told to use our thumbs to stop small amounts of bleeding, as this was the fastest way to do it." Unfortunately, the bandage that then takes over from the thumb pressure, and that must remain in place for around eight hours until the body’s own clotting system seals the wound effectively, cannot be positioned as accurately as a doctor’s thumb.

A few years ago, having often found himself faced with consequences of slipped bandages (usually extensive bruising), Prof. Scheule came up with an idea for a new vascular occlusion system that would "keep the thumb" on the incision to be sealed. "CaveoVasc is a system that allows the catheter to be inserted into the patient’s vascular system and seals the incision perfectly once the examination is complete," he explains. One balloon is used to fix the device in place in the patient’s subcutaneous fat tissue, while
another applies pressure directly onto the incision so that the body’s own clotting system seals it. The balloon system even works for heavily overweight patients.

This both reduces risks for patients and makes work easier for doctors – the prototype that Prof. Scheule had developed by Contract Medical International CMI in Dresden has already impressed several colleagues. Now funding needs to be secured for series production. “The material tests have begun and the approval study is planned to start at a large German vascular centre by the end of the year,” says Prof. Scheule, who is expecting certification by mid-2016.

“Working with CaveoMed here and CMI in Dresden fits in well with our strategy for cross-cluster and cross-industry cooperation,” says BioRegio STERN Managing Director Dr. Klaus Eichenberg. He recently launched the “Aktionsplan Medizintechnik” plan of action for medical technology with Dresden-based biosaxony e. V. The project, which is supported by the German Federal Ministry for Economic Affairs and Energy (BMWi) “go-cluster” programme, links up regional clusters to strengthen and develop future-focused sectors.

Prof. Scheule is confident about his development’s success: “With my vascular occlusion system, neither clamps nor closure plugs are left in the body. What’s more, CaveoVasc can also be used to seal larger incisions such as those required for heart valve replacement.” CaveoMed has also solved a major problem encountered in lysis therapy for strokes and blocked blood vessels. The medication used in this process successfully dissolves the blood clot, but bleeding may then reoccur at the incision. CaveoVasc protects the incision during lysis therapy. “Our new occlusion system offers a unique selling point, and on this basis we believe we can be the market leaders in this field within five years,” says Prof. Scheule.

Prof. Scheule expects his young company, which was set up with the exclusive support of private investments, to reach break-even point within the next two years. For the upcoming market launch, CaveoMed now needs a new round of funding to raise approximately one million euros. “This would be enough to build up a small sales team,” he says. He is already in talks with a number of investors – and it is unlikely to be long before they give the “thumbs-up”.

About BioRegio STERN Management GmbH:
BioRegio STERN Management GmbH is a skill-sharing network, providing a help and advice centre for founders of new businesses, entrepreneurs and researchers in the life sciences sector in the cities of Stuttgart, Tübingen, Esslingen and Reutlingen and the Stuttgart and Neckar-Alb regions. BioRegio STERN Management GmbH represents the interests of these market players in dealings with political circles, the media and associations and provides advice on grant applications and corporate financing. Key focal points include regenerative medicine, medical technology and the automation of biotechnology. Managing Director Dr. Klaus Eichenberg is a molecular and cell biologist and investment analyst.

BioRegio STERN was awarded the Silver Label by the ESCA in spring 2015.

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