



Novel Percutaneous Carotid Access System (PerCAS) enables Shorter Interventional Devices for Neurovascular Access

A dual lumen sheath designed for Carotid access with improved patient outcomes, due to faster and less risky access to intervention site

Objective

Seeking Licensing Opportunities,
development partner

Research and IP Status

Patent application submitted

Patents

US patents No. 16/612,643

European patent application no. 18723834.0

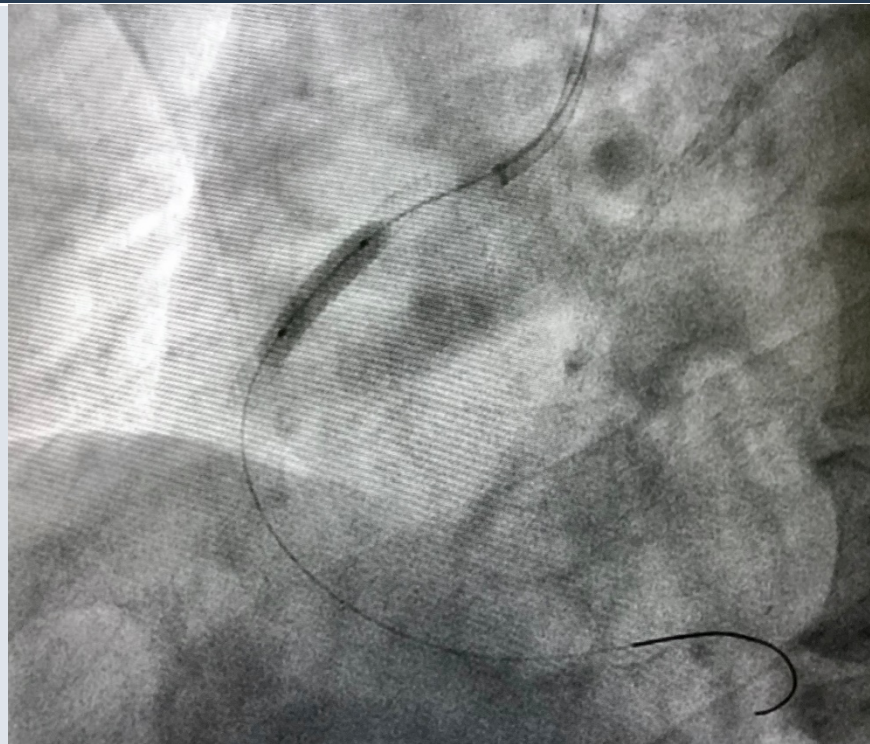


Image: www.shutterstock.com

Background

Current interventional devices access the carotid artery via the arm or leg, leading to longer procedures navigating tortuous anatomy. PerCAS allows direct percutaneous access to the carotid artery safely and effectively. The PerCAS carotid access system is a platform that enables a new generation of shorter interventional devices with greater control, faster access and improved capabilities.

Tech Overview

PerCAS is a dual lumen sheath designed for Carotid access. The carotid is located with Doppler Ultrasound, the sheath is introduced and positioned, a distal balloon is inflated to occlude blood flow. The central lumen is used for interventional devices. A vacuum applied to the central lumen causes a flow reversal which removes blood carrying away any emboli that could cause a stroke. The required intervention may be performed quickly, as there is no tortuous anatomy navigation. The flow reversal ensures safe removal of emboli. The distance to the intervention (mechanical thrombectomy or carotid plaque) is very short, and hence devices may be designed to take advantage of that.

Figure 1: A schematic diagram of PerCAS showing the main sheath with working lumen of 6.7Fr, the distal balloon for blood flow occlusion, and emboli removal port/syringe.

Further Details

Thrombectomy in Acute Ischemic Stroke: Challenges to Procedural Success (Journal of Stroke 2017;19(2):121-130)

Applications

- Neurovascular interventions - mechanical thrombectomy, coiling for aneurysm treatment.
- Vascular interventions – especially carotid stenting
- Direct percutaneous vascular access.
- Global application, with initial focus on US and EU markets

Benefits

- Improved patient outcomes, due to faster and less risky access to intervention site.
- More efficient for physicians due to time saving and emboli removal. Current access sites typically cannot deploy any emboli protection until they have traversed the lesion in the case of carotid artery stenting.
- Enabler to develop shorter interventional devices with better torque control, improved vacuum, ability to access smaller arteries within the brain.

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Appendix 1

Figure 1: A schematic diagram of PerCAS showing the main sheath with working lumen of 6.7Fr, the distal balloon for blood flow occlusion, and emboli removal port/syringe.

PerCAS

Specialized Sheath

