UTSouthwestern
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TITLE: Vascular Trapping Sheaths and Vascular Trapping Guide Catheters for Endovascular Interventions and Diagnostic Angiography
INVENTORS: Subhash Banerjee
TECHNOLOGY: Medical Devices
UTSD: 2633

SUMMARY: Catheter, balloon stents, or any over the wire endovascular device routinely switching from a short wire (monorail) to an over the wire (long shaft) requires careful backing out of the monorail device and advancement of the long shaft device with constant attention and observation of the distal wire position in the blood and/or lymphatic vessels. This procedure exposes the patient and operator to radiation since it is carefully guided using X-ray, fluoroscopic, or cine angiographic visualization.

This invention is a novel trapping sheath designed for endovascular insertion, and a trapping guide catheter (inserted through the trapping sheath) with one or more inflatable cuffs or balloon-like structures (trappers) made of flexible polyurethane, plastic or other compatible materials embedded within or lined inside the sheath walls.

Trappers are connected to a hollow tubing that passes along the inner wall of the sheath and have a port to inflate with saline or with a mixture of saline and iodinated contrast for endovascular visualization with a lock to inflate and deflate with a turn of a rotating handle. Inflating trappers trap an elongated endovascular device, such as a penetrator, a guide wire, and/or a catheter.

The proposed design and construct of the trapping sheath and trapping guide catheter would allow use of these devices for performing diagnostic angiography of vascular territories, deliver endovascular devices during endovascular interventions and most importantly retrieve them without the use of additional trap balloons and without the need for devices or guide wire retrieval under fluoroscopic or angiographic guidance.

This technology will improve the stability of the endovascular device, increase procedural success rate, enhance safety, reduce radiation exposure, and save healthcare cost.

Please contact the Office for Technology Development for more details:

Phone: 214-648-1888
Email: TechnologyDevelopment@utsouthwestern.edu
Please reference UT Southwestern Case Number: **2633**