Perivascular Drug Delivery System Inhibits Restenosis

INVENTORS • Lian-Wang Guo, Kenneth Kent, William Murphy, Xiaohua Yu

WARF: P150048US02

The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a perivascular delivery system and method for preventing and treating restenotic disease.

OVERVIEW

Restenosis (re-narrowing of the blood vessel) frequently develops after surgical interventions such as bypass. Although this process is well understood and restenosis inhibitors are available, it has been difficult to treat due to a lack of effective drug delivery systems.

For open surgical procedures like bypass, there exists no accepted clinical drug delivery system for perivascular (outside the vessel) application. Approaches like polymer gel depots, wraps/films and meshes lack efficacy, are not biodegradable and can cause mechanical stress to the blood vessel.

THE INVENTION

UW–Madison researchers have developed a new device and method for perivascular delivery of drugs to treat and prevent restenosis.

The device consists of a sheath made from a bioresorbable polymer. An anti-proliferative drug is loaded into the sheath. When the sheath is placed around the outside of the blood vessel, the drug is delivered to the vessel over time.

APPLICATIONS

• Post-bypass management, perivascular treatment and prevention of intimal hyperplasia and restenosis
• Dialysis access

KEY BENEFITS
• Allows for in vivo, controlled release of anti-proliferative drugs
• Lowers need for additional interventions that may worsen restenosis
• Enables linear drug release, depending on the sheath composition
• Biodegradable and durable
• Perivascular and non-disruptive; placement does not place mechanical stress on blood vessels

ADDITIONAL INFORMATION

Related Technologies
For information about treating restenosis using a combination of insulin and connective tissue growth factor, see WARF reference number P120330US02.

Publications


Tech Fields
Medical Devices - Drug delivery

CONTACT INFORMATION

For current licensing status, please contact Jeanine Burmania at jeanine@warf.org or 608-960-9846.