Drug-coated stents prevent leg amputation

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Drug-eluting stents can keep clogged leg arteries open, preventing amputation of the leg, suggests research being presented at the Society of Interventional Radiology's 38th Annual Scientific Meeting in New Orleans.

"Peripheral arterial disease (or PAD) is becoming increasingly prevalent due to our aging population and the obesity and diabetes epidemics," said Robert A. Lookstein, M.D., FSIR, lead researcher and chief of interventional radiology at Mount Sinai Medical Center in New York, N.Y. "Many PAD patients are not candidates for surgery and are seeking minimally invasive options. This therapy is an emerging technology that is safe and effective for treating critical limb ischemia. This treatment helps alleviate pain and avoid amputation," he noted.

An estimated 20 percent of North Americans age 65 or older suffer from peripheral arterial disease, said Lookstein. Individuals with PAD don't get enough blood circulation in the narrowed arteries in their legs and other extremities. The most severe form of the disease is a condition called critical limb ischemia, when arteries become dangerously narrow or completely obstructed. Those with critical limb ischemia can start to feel pain in their legs at rest and develop sores on their feet and lower legs that don't heal. If the condition goes untreated, amputation of the foot or leg may be necessary. Drug-eluting stents can open up those clogged arteries and prevent amputation, according to Lookstein.

In the retrospective study, 107 patients with critical limb ischemia had 171 drug-eluting stents placed in blocked leg arteries. Six months after

treatment 90 percent of the stents remained opened. Subsequent check-ups at one and two years showed just a slight decline, with 84 percent and 70 percent, respectively, of treated arteries remaining open. All patients in the study treated in the early stages of critical limb ischemia were able to avoid amputation.

Minimally invasive balloon angioplasty is commonly used in patients who are not good surgical candidates, but long-term success rates are poor when small arteries are treated, said Lookstein. With balloon angioplasty, interventional radiologists use medical imaging to advance a tiny tube called a catheter through blood vessels to the site of the blockage. A tiny balloon is expanded, opening up the blocked artery; however, the vessel often becomes reclogged over time, a process called restenosis. To keep the arteries from reclogging, doctors can deposit a tiny expandable tube (stent) to keep the artery propped open. In this study, the stents were drug-eluting, meaning they were impregnated with an immunosuppressant drug similar to those taken by organ transplant recipients to prevent the rejection of a new organ. The drug-eluting stent is grafted along the wall of the narrowed artery forcing it open. The drug continues to be emitted over time, preventing the artery from reclogging.

"The study shows that this technology is superior to balloon angioplasty and rivals the results of surgical bypass," said Lookstein. "It's safe, it's durable and the outcomes are spectacular. The vast majority of patients were able to avoid amputation and dramatically improve their quality of life," he added.

More information: "Single-center Experience With Drug-eluting Stents in the Treatment of Critical Limb Ischemia: Mid-term Follow-up," R. Lookstein, T.J. Ward, A.M. Fischman, E. Kim, S.F. Nowakowski, R.S. Patel, S. Ellozy, A. Vouyouka, P. Faries, M. Marin, Mount Sinai Medical Center, New York, N.Y., SIR 38th Annual Scientific Meeting, April 13, 2013. This abstract can be found at