Self-Expanding, Drug-Coated Stent for the Treatment of Peripheral Arterial Disease

Who Might Benefit?

The superficial femoral artery (SFA) is a long vessel in the thigh that carries blood and oxygen to the leg. This artery is a frequent site of vascular blockage due to the deposition of fatty plaques (atherosclerosis), inflammation, or blood clots. The narrowing or occlusion of this artery can cause pain or discomfort in leg muscles when the person walks, due to reduced blood flow. This condition can be debilitating and can prevent patients from working and performing daily tasks. The condition is more common in the elderly, smokers and diabetic patients. Its frequency rate is reported to be 4% in Canadians older than 40, and this number increases to 20% in people older than 75.

Current Practice

In addition to lifestyle changes and medications to manage underlying disorders, angioplasty and stenting or surgical procedures might be recommended in some cases. Angioplasty is a less invasive procedure where a catheter is inserted through a small puncture over an artery in the patient's arm or groin and guided to the blocked area. Once in place, a special balloon, which is attached to the catheter, is inflated and deflated several times to widen the vessel and allow the blood to flow. A tiny mesh-metal tube, called a stent, is often inserted into the narrowed area to hold the vessel open. In surgical revascularization, a graft (made from one of the patient's veins or from man-made materials) is used to create a detour around the narrowed or blocked area of the leg artery.

> A new self-expanding, drug-eluting stent for peripheral artery disease of the superficial femoral artery

What's New?

An important advancement in the treatment of SFA occlusion has been the introduction of a stent that is coated with a drug to help prevent the artery from narrowing again. This drug-eluting stent is the first stent indicated for use in the SFA. It is made of a material that is self-expanding and that returns to its original shape after external pressures are removed. Its external surface is coated with a drug named paclitaxel to prevent the artery from narrowing again.

Potential Advantages

When compared with standard treatment, clinical evidence suggests that T-DM1 alone can prolong the chance of living without disease progression, improve a patient's overall survival by 5.8 months, and lower adverse events. It potentially improves health-related quality of life. This targeted approach allows for greater efficacy and lowered toxicity, compared with standard treatment.