Vsling: Transcatheter Ventricular Repair Device for Heart Failure Patients

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Medical Devices

SESSION: Why does cardiovascular disease remain the number ONE target for MedTech innovation?

Executive Summary:
MedTech innovations like the Vsling device by Cardiac Success are making significant strides in addressing cardiovascular disease, the leading cause of death worldwide. The Vsling device aims to improve the lives of millions of Heart Failure with Reduced Ejection Fraction (HFrEF) patients who continue to suffer despite guideline-directed medical therapy. Designed based on a successful surgical papillary muscle approximation procedure, the Vsling represents a novel approach to transcatheter ventricular repair.

The Need for Innovation:

Approximately 2 million heart failure patients in the United States could benefit from the Vsling device. Specifically targeting HFrEF patients characterized by ventricular dilation and low ejection fraction, the Vsling device addresses a critical gap. Notably, 80% of these patients do not have significant mitral valve regurgitation and are therefore not suitable for mitral valve repair or replacement. Given the 35% five-year mortality rate and the lack of direct treatments for the failing left ventricle available on the market, the urgency for solutions like the Vsling device is clear.

Background and Development:

Historically, the papillary muscle sling concept has seen success in surgery, used alongside CABG and annuloplasty for ischemic heart disease and severe mitral regurgitation. Despite encouraging results from various studies, application has been limited to on-pump open heart surgery. The introduction of the Vsling device via a low-profile transfemoral delivery system represents a breakthrough, offering an anchorless, adjustable band to facilitate ventricular reshaping directly. This innovation aims to reduce wall stress, enhance contractility, and initiate therapeutic remodeling, making treatment more accessible. The first-in-human study is currently in progress in Europe and Israel and early results from several successful implantations are already demonstrating improvements in LV function and quality of life.

Intellectual Property and Funding:

Cardiac Success, initiated within the Alon Medtech Ventures incubator in 2017, has strengthened its innovative edge with 18 granted patents, alongside numerous pending patents globally. Securing approximately $10 million in funding from a variety of sources, including 415 Capital (European VC) and grants from the Israeli Innovation Authority (IIA) and the European Innovation Council (EIC), the company, with its experienced leadership, is poised to launch this transformative product into the market.