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HINTERGRUND

Post-operative right heart failure may develop in more than 40% of patients undergoing implantation of a left ventricular assist device (L-VAD) and cardiac transplantation. Early introduction of a right ventricular assist device (R-VAD) has been proven beneficial for this group of patients. However, most commercially available R-VADs are still associated with complications such as hemolysis, infection and need for anticoagulation. Thus they are only used for short-term application. Some devices provide long-term support, but due to the invasive implantation procedure they are usually offered as a last resort to critically ill patients after all other alternative treatments have been exhausted.

Consequently, there is still an unmet clinical need for minimally invasive implantable R-VADs which can be used as bridge-to-recovery as well as destination therapy.

LÖSUNG

The invention is based on a foldable conduit-free axial flow pump directly driven by an integrated miniature external-rotor motor. The foldable components include impeller blades, removable fixation structures and a stent. The system can be inserted via peripheral vessels in a collapsed form and is expanded in the pulmonary artery immediately after the pulmonary valve. In the case of bridge-to-recovery application, MIRVAD can easily be removed due to its robust but removable fixation clips. In contrast to available minimally invasive implantable R-VADs, the system generates higher torque at lower rotational speed and thereby minimizes wear. As a result, MIRVAD is also suitable for long-term application.
VORTEILE

- Minimally invasive application
- Suitable for bridge-to-recovery or destination therapy
- Excellent hemocompatibility

SERVICE

A European patent application has been filed in July 2012. On behalf of RWTH Aachen University, PROvendis offers access to rights for commercial use or research collaboration with licensing option.

PUBLIKATIONEN & VERWEISE
