Left Ventricular Trans-Apical Dual Lumen Cannula

Published date: May 7, 2018

Technology description

Invention
This is a dual lumen cannula that can be used to act as a bridge to a decision during an urgent surgical situation. This cannula will be inserted into the left ventricle through an apical ring and can pump in blood and suck out blood at the same time. The entirety of this assembly is designed to be empowered by an extracorporeal pump and connected to necessary tubing.
Background
Currently, cardiopulmonary bypass through a median sternotomy in a patient with failing circulation can induce profound coagulopathy and systemic inflammation, necessitating multiple blood transfusions and leading to various pathology later. There is a need for minimizing surgical trauma and allowing early post-operative ambulation, which may optimize outcomes in these patients who undergo these surgeries.

Application area

• Used to treatment for cardiogenic shock.
• Provides additional time for doctor to determine the best course of action during a cardiac procedure.
• Has potential to be used in other heart-related surgical procedures.

Advantages

• New tip facilitates better hemodynamics.
• It can be adapted through the self-sealing apical ring on left ventricle, making the transition to LVAD easier.
• Inflow holes are newly-designed and may contain pressure sensors that maintain pressure balance within the ventricle.

Institution

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