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The Mechanical heart

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With a great leap in the field of science and technology at the beginning of the 21st century, people were able to witness the appearance of numerous inventions some of which are already helping patients worldwide, while other devices could lead to serious innovations in the near future. One of them is the AbioCor implantable replacement heart.

The AbioCor implantable replacement heart is the first completely self-contained total artificial heart. It is the product of 30 years of research, development, and testing conducted by ABIOMED, Inc. and its collaborators, with the support of the National Heart, Lung, and Blood Institute. The AbioCor is designed to sustain the body's circulatory system and to extend the lives of patients who would otherwise die of heart failure. Its unique design allows it to be totally implanted within the body. Unlike the artificial hearts of the past, patients are not tethered to a large, air-pumping console nor do they have wires or tubes piercing their skin.

The AbioCor is intended for use in end-stage heart failure patients whose hearts have irreversible left and right ventricular failure and for whom surgery or medical therapy is inadequate. Currently, heart transplantation is the only proven method of cardiac replacement for extending the lives of such patients; however, there remains a consistent shortage of available donor hearts for transplantation.

Internal Components and External Components

A thoracic unit (the pump), consists of the artificial ventricles, which contain their corresponding valves, and are motor-driven? The hydraulic pumping system uses pressure to shuttle blood from side to side - from the artificial right ventricle to the lungs or from the artificial left ventricle to the rest of the body.

The AbioCor is normally powered by an external console or battery packs, power to the AbioCor is supplied with an energy-transfer device called a transcutaneous energy transmission (TET) system. The TET system consists of internal and external coils that are used to transmit power across the skin.

The invention of Abiocor shows how much people have achieved in the field of medicine, and I hope this technology will help many people with heart diseases and save many lives.

Key words: Abiocor, future, life

