Artificial Heart: New Advancements

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Purpose of Study

To examine the recent discoveries and innovations in the field of artificial hearts.

Introduction

Every year, 600,000 Americans die from heart disease. Only 2,000 hearts are available for transplant each year. The artificial heart is a device that replaces the lower chambers of the heart called the ventricles. It has the potential to replace the need for real donor hearts. Artificial hearts can be viewed as an upgraded heart support or as a new breakthrough that is a door to the next heart support or something we can't even think of.

Public Perception

In the 1980's, the Jarvik-7 temporary artificial heart was developed, but recipients of the device only lived for a few months after the procedure. Opponents argue that an artificial heart only creates a long and painful death for patients.

Discoveries and Innovations

In 1990, the US Food and Drug Administration (FDA) withdrew its approval of the Jarvik-7. It wasn't until 2004 that the FDA approved the next temporary artificial heart created by SynCardia. SynCardia is the only temporary artificial heart that is approved for use. SynCardia also offers devices that support failing hearts. The FDA has not approved any permanent artificial hearts.

Applications in Medicine

The artificial heart can provide a longer life for some with heart failure or keep someone on the waiting list alive long enough to see a heart transplant for a real heart.
Further research could allow artificial hearts to become permanent and give the patient a longer life(more then ten years).

References

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Data

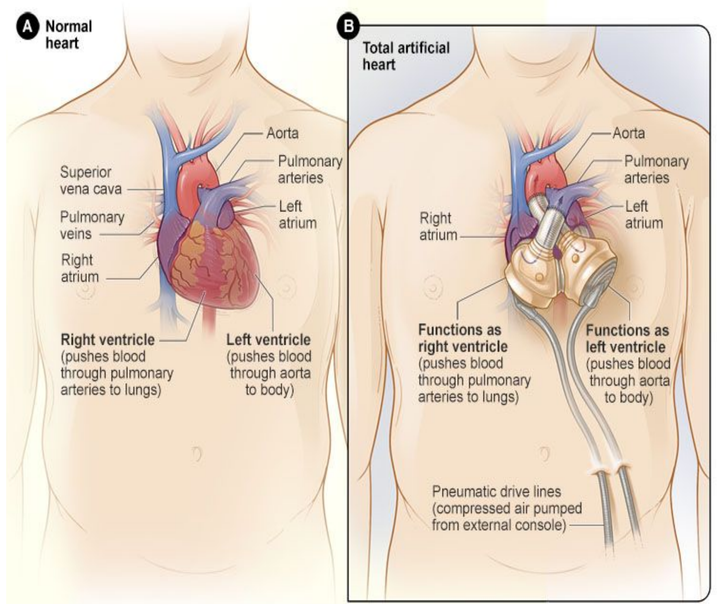

Figure 1. SynCardia Artificial Temporary Heart

Conclusion

Artificial hearts, with the time and money, could become permanent (with an average human lifespan) but as technology advances I think that we will be able to create an artificial heart that is permanent.