System And Method For Fastening A Tubular Prosthesis

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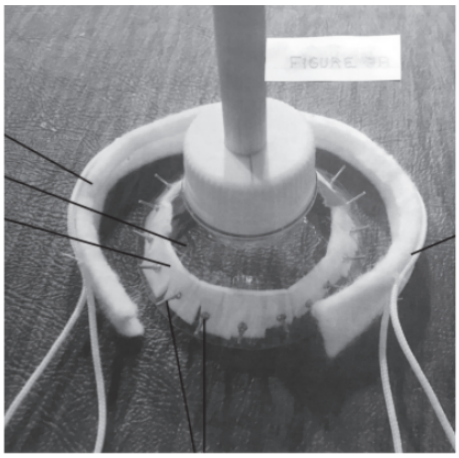

Figure 1. A top perspective view of the fixation device

Technology Summary

The use of handsewn anastomosis is common when replacing and resecting the aorta, as mortality with non-operative therapy is very high, but the dissection disrupts normal tissue integrity, making the sewing difficult in surgery. This creates a need for quick and easily, implanted suture-less anastomosis to connect native blood vessels to vascular grafts and other biological conduits. Inventors have created a technique to attach a valve, pump, or artificial heart to the circulation where a rigid or semi-rigid tube is inserted in the vessel, ultimately making ease of a very difficult procedure.

Application & Market Utility

The demand for anastomosis devices is estimated at $1.2 billion as of 2022, with a proposed market increase to over $2.7 billion by 2032. This system and method can address a critical utility in connecting native blood vessels to various areas such as vascular grafts, total artificial heart devices, and other biological conduits such as bile ducts, ureters, and fallopian tubes. Such a quick and effective fastening system ensures a stable and properly positioned attachment, facilitating a fast-healing process and long-term functionality of the implantation.

Next Steps

Handsewn anastomosis remains a product with many unanswered issues. For that reason, the next step of the invention would be to license the technology to a company that specializes in anastomosis devices.

TECHNOLOGY READINESS LEVEL 4

Seeking

Investment | Licensing | Research

Keywords

- Laparoscopic
- Surgery
- Magnet
- Incision

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