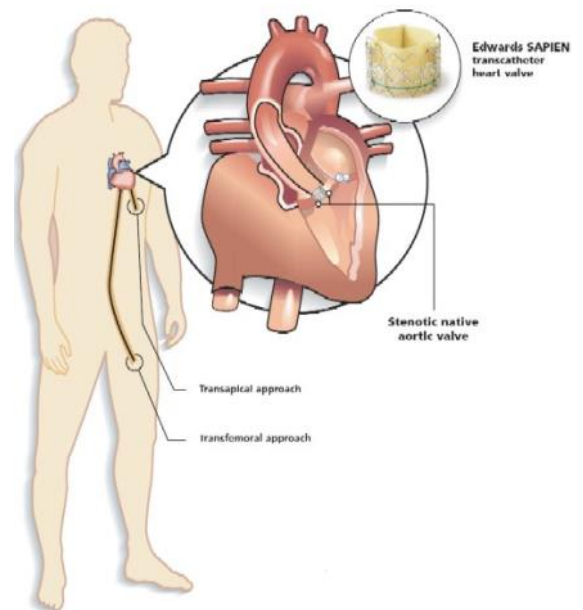


New Material for Transcatheter Bioprosthetic Heart Valves

Description:

This technology aims to address the key weakness of bioprosthetic heart valves (BHV) by improving the mechanical properties of the tissue thereby lengthening the lifespan of the implant. The technology includes a new product, i.e. a novel material and construction method for the heart valve, as well as a new fixation process to further improve the mechanical properties.

Specifically, this technology proposes the utilization of the vena cava tissue, (i.e. porcine) for the construction of bioprosthetic aortic heart valves as an alternative to using the porcine aortic valve leaflets. The vena cava sections are cut to desired shape and size and then sewn to a stent. The benefits demonstrated include superior mechanical properties when compared to the pericardium material, which means reduced chance of calcification and a longer life for the heart valve.



Percutaneous Aortic Valve Replacement (PAVR)¹

Applications:

- Bioprosthetic heart valves
- Percutaneous Aortic Heart Valve (PAVH) Replacement
- Other uses in replacement and reconstructive cardiovascular surgery

Benefits:

- Improved mechanical properties of the heart valve tissue = reduced risk of calcification
- Allows for fashioning the material into any desirable shape, size and orientation
- Improved chemical fixation procedure, which reduces the propensity of the new biomaterial towards biological degeneration

Inventors: Naren Vyavahare, Dan Simionescu
Protection Status: Patent issued; # [7,189,259](#)
Licensing Status: This technology is available for licensing
Additional Terms: Bioprosthetic Heart Valve (BHV), Bioprosthesis, Percutaneous Aortic Heart Valve
CURF ID: 03-005

¹ (2000) Kvidal P, et al. J Am Coll Card. 35:747-56.