Annuloplasty Rings for Tricuspid Valve Repair

Published date: Aug. 4, 2011

Technology description

Technical Summary

This technology describes two medical devices to repair the tricuspid valve. Both devices are designed to conform to the shape of the tricuspid annulus, maintain ample coaptation, and allow good forward flow. The first device is a triangular ring made of rigid material. The edges have lengths and a curvature that forms a saddle shape and conforms to the shape and segments of the tricuspid annulus. The second device is a triangular ring that is adjustable. The acute angle between the two adjacent angles can be changed in order to facilitate independent control over the individual leaflets. Once adjusted, the ring can be fixed in place using a simple lock mechanism, allowing the surgeon to choose the right shape and size of the annuloplasty ring based on the patient’ s tricuspid valve.

To repair the dysfunction of tricuspid valves, surgical techniques to repair damaged valves are preferable to valve replacement. There are currently few rings on the market that can be used to repair the tricuspid valve. These annuloplasty rings are generally made in different shapes, sizes, and mechanical properties. These rings must be surgically implanted using open-heart surgery and require the patient to be on cardiopulmonary bypass for a significant period of time. Our technology describes custom fit rings that can be implanted with a minimally invasive procedure which might lessen the post-operative risk of valve surgery and reduce patient mortality.

Application area

Devices to treat tricuspid regurgitation or repair the tricuspid valve.

Advantages

Device allows for a custom fit into the patient’ s existing valve.
Flexible device design is adjustable and allows for customization.
Novel method that is less invasive than currently available.

Institution

Emory University

Inventors

Sai Muralidhar Padala
Assistant Professor of Cardiothoracic Surgery
SOM: Surgery: Thoracic
Vinod Thourani
Associate Professor
SOM: Surgery: Thoracic

联系我们

叶先生

电 话：021-65679356
手 机：13414935137
邮 箱：yeyingsheng@zf-ym.com