

Claims

1. A connecting structure of a stent and a valve leaflet for an interventional valve-in-valve or an interventional aortic valve, wherein the stent is a metal mesh tube, the valve leaflets are three fan-shaped valve leaflets arranged on the inner side of the stent, each of the three fan-shaped valve leaflets is provided with a free edge, an arc-shaped bottom edge and valve leaflet junction connecting parts extending on two sides, characterized in that three connecting posts are uniformly distributed on the metal mesh tube, each connecting post is at least provided with a rectangular slit, the junction connecting parts of the fan-shaped valve leaflets comprise a continuous radial overturning connecting part and an axial overturning connecting part, the radial overturning connecting part of the each fan-shaped valve leaflet penetrates through the rectangular slit of the connecting post to penetrate from the inner side to the outer side then folds in radial direction, the axial overturning connecting part is folded on the inner side of the connecting post to forms a cushioning portion, and then is connected and fixed to the connecting post through a suture.
2. The connecting structure of the stent and the valve leaflet for the interventional valve-in-valve or the interventional aortic valve of claim 1, characterized in that the radial overturning connecting parts of the two adjacent valve leaflets junction connecting parts are further connected through a flexible connecting piece in a suturing mode, then penetrate through the rectangular slit of the connecting post, and are fixed with the connecting post through a suture after clamping and fixing with a rigid gasket on the inner side of the flexible connecting piece.
3. The connecting structure of the stent and the valve leaflet for the interventional valve-in-valve or the interventional aortic valve of claim 1, characterized in that holes or rectangular frames are symmetrically arranged on two sides of the rectangular slit on each connecting post, the number of the holes is four to eight, and the number of the rectangular frames is two or four.
4. The connecting structure of the stent and the valve leaflet for the interventional valve-in-valve or interventional aortic valve of claim 1, characterized in that the material of the stent is an implantable alloy material, the implantable alloy material is a cobalt-based alloy, a nickel-titanium alloy or a stainless steel material, and the material of the valve leaflet is an animal-derived tissue material or a medical polymer material.
5. An interventional valve-in-valve or interventional aortic valve employing the

connecting structure of the stent and the valve leaflet of any one of claims 1-4, comprising a ~~sent-stent~~ that can be radially compressible and in a slightly flaring shape after being expanded by a balloon, three fan-shaped valve leaflets arranged on the inner side of the stent, the three fan-shaped valve leaflets are respectively provided with a free edge, an arc-shaped bottom edge and valve leaflet junction connecting parts extending on the two sides, characterized in that the stent is a metal mesh tube, and three connecting posts are uniformly distributed on the metal mesh tube, each connecting post is at least provided with a rectangular slit, the junction connecting parts of the fan-shaped valve leaflets comprise a continuous radial overturning connecting part and an axial overturning connecting part, the radial overturning connecting part of each fan-shaped valve leaflet penetrates through the rectangular slit of the connecting post to penetrate from the inner side to the outer side then folds in radial direction, the axial overturning connecting part is folded on the inner side of the connecting post to forms a cushioning portion, and then is connected and fixed to the connecting post through a suture, the body wall of the stent is provided with a coating membrane.

6. The interventional valve-in-valve or the interventional aortic valve of claim 5, characterized in that the stent is provided with a plurality of columns of axial supporting rods arranged between the connecting posts, three rows of transversely extending circumferential supporting rods are arranged between the connecting posts and the axial supporting rods, the lower first row of circumferential supporting rods define an inflow end of the stent, the second row of circumferential supporting rods and the third row of circumferential supporting rods spaced from the first row of circumferential supporting rods define an outflow end of the stent, and each row of circumferential supporting rods consists of a plurality of groups of angular supporting rods connected together; each group of supporting rods is in the shape of a deformable V, the deformation angle is 0-90 degrees, each group of circumferential supporting rods in the first row and the second row are arranged in parallel and opposite to the direction of each group of circumferential supporting rods in the third row, and the coating membrane on the body wall of the stent is sewn between the first row of circumferential supporting rods and the second row of circumferential supporting rods.

7. The interventional valve-in-valve or the interventional aortic valve of claim 5, characterized in that the stent is provided with four rows of transversely extending circumferential supporting rods and a plurality of columns of axial supporting rods

arranged between the circumferential supporting rods, wherein the lower first and second row of circumferential supporting rods define the inflow end of the stent, the third and fourth row of circumferential supporting rods define the outflow end of the stent, each row of circumferential supporting rods consists of a plurality of groups of angular supporting rods connected together, and each group of supporting rods is in a deformable V shape; the deformation angle is 0-90 degrees, the plurality of columns of axial supporting rods and the plurality of groups of circumferential supporting rods are mutually connected to form a honeycomb space, and the coating membrane on the body wall of the stent is sewn between the first row of circumferential supporting rods and the third row of circumferential supporting rods.

8. The interventional valve-in-valve or the interventional aortic valve of claim 5, characterized in that a coating membrane is sewn between the first row of circumferential supporting rods and the second row of circumferential supporting rods outside the body wall of the stent.

9. The interventional valve-in-valve or the interventional aortic valve of claim 5, characterized in that the angle between ~~the~~an outer edge of ~~the~~ balloon-expanded stent and ~~the~~ its axis thereof is between 0° and 30°.