

REPLACEMENT HEART VALVE APPARATUS AND METHODS

Abstract

Systems and methods for replacing a native heart valve 16. An expansible helical anchor 12 is formed as multiple coils 22 adapted to support a heart valve prosthesis 60. At least one of the coils 22 is normally at a first diameter, and is expandable to a second, larger diameter upon application of radial outward force from within the helical anchor 12. A gap 91 is defined between adjacent coils 22 sufficient to prevent engagement by at least one of the adjacent coils 22 with the native heart valve 16. An expansible heart valve prosthesis 60 is provided and is configured to be delivered into the helical anchor 12 and expanded inside the multiple coils 22 into engagement with the at least one coil 22. This moves at least that coil 22 from the first diameter to the second diameter while securing the helical anchor 12 and the heart valve prosthesis 60 together. The system further includes a seal 90 on the expansible heart valve prosthesis 60 configured to engage the helical anchor 12 and prevent blood leakage past the heart valve prosthesis 60 after implantation of the heart valve prosthesis 60 in the helical anchor 12. Additional apparatus and methods are disclosed.

Fig. 14A