

Nitinol based Occlusion device for non-surgical closure of Atrial Septal Defect

TRC P 8150

Atrial Septal Defect or in common language a hole in the heart is the most common type of heart disorders that occur congenitally. Surgical correction involves an open heart surgery procedure where a patch is stitched on the defect to close it. Non-surgical closure involves the use of a device that can be delivered to the defect location by a catheter. The device is a two lobed structure connected by a waist region; it has two parts: a) metal frame and b) fabric within the frame.

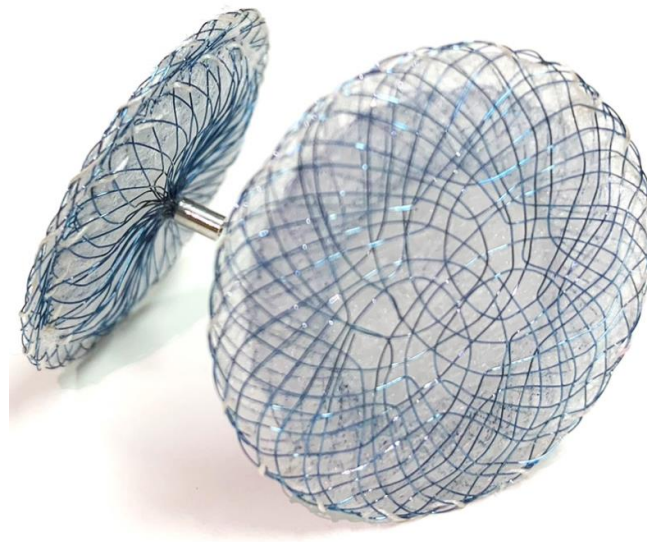


Figure 1: Chitra ASD Occluder

The Chitra-ASD occluder device technology has been developed and transferred to M/s Biorad Medisys Pvt. Ltd., Pune. It consists of a nitinol braided mesh with a single hub on the RA flange and no hub on the LA flange. The hubless LA flange promotes faster endothelialization of the device and reduction of thrombus formation and emboli generation. Further, it has a ridge like feature on the edge of the left lobe. This ridge feature provides a softer edge for the device reducing chances of atrial roof erosion when implanted.

A delivery cable with a novel release mechanism has also been developed which requires very little force and torque to be passed to the device during release, thereby reducing risk of dislodgment. It also allows delivery at an oblique angle to the septum to suit the access through the inferior vena cava. This swiveling freedom reduces the load on the device and the septum after it has been deployed into the defect and before the release mechanism operates.

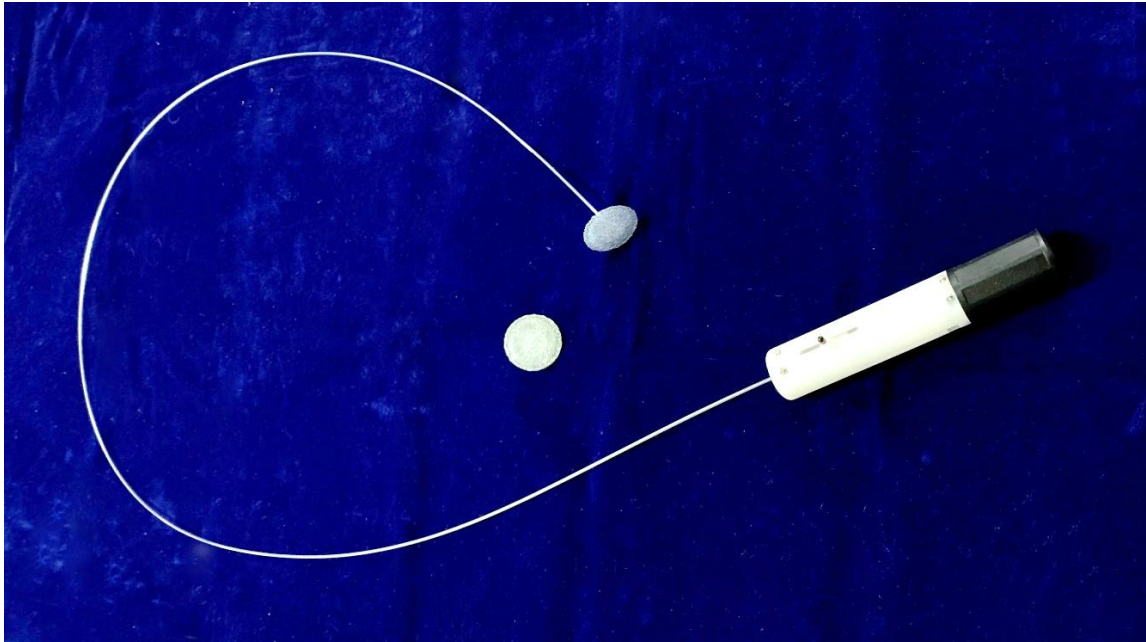


Figure 2: Delivery System with device engaged at distal tip

The novel braid for the hubless LA flange, the ridge feature and the unique delivery system has been protected through patent and design applications.

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