Enterprise stent

Codman Neuro launched the CODMAN ENTERPRISE® 2 Vascular Reconstruction Device, the latest generation of the company's self expanding stent and delivery system used to treat wide necked aneurysms and to help maintain the position of endovascular coils during and after the procedure.

Codman Neuro is a part of the DePuy Synthes Companies of Johnson & Johnson.

The new CODMAN ENTERPRISE 2 System is designed to improve vessel wall conformability, while maintaining a stable structure at the neck of an aneurysm.

The device helps secure the placement of endovascular coils and maintains blood flow through the artery. In addition, the stent is more visible under fluoroscopy than the previous device and has a self-flushing introducer to facilitate ease of use.

The precision, conformability and occlusion that can be achieved when treating wide-necked aneurysms with the CODMAN ENTERPRISE 2 System are excellent. It was easy to use and deploy, and met all expectations for treatment. This is truly a next generation stent that helps overcome the clinical challenges of treating wide-necked aneurysms," said Donald Frei, MD, a neurointerventional radiologist at Radiology Imaging Associates in Denver, Colorado and one of the first physicians to use the technology.

The CODMAN ENTERPRISE Vascular Reconstruction Device and the CODMAN ENTERPRISE 2 Vascular Reconstruction Device are Humanitarian Use Devices approved by the FDA under a Humanitarian Device Exemption (HDE) in the United States Only, where it is authorized by Federal Law for use with embolic coils for the treatment of wide-neck, intracranial, saccular or fusiform aneurysms arising from a parent vessel with a diameter of ≥2.5 mm and ≤4 mm. Wide-neck is defined as having a neck width ≥4 mm or a dome-to-neck ration <2.

Case series

2017

Qin et al. retrospectively reviewed the clinical and imaging data from 37 patients with very small ruptured intracranial aneurysms who had SAC using Enterprise stents performed from February 2012 to July 2016 in the Department of Neurosurgery, Yijishan Hospital, Wannan Medical College, Wuhu, China. department. Data collected and analyzed included patient demographics, morphologic features of the aneurysm, treatment results, and follow-up results. Clinical outcomes were evaluated by the Glasgow Outcome Scale (GOS).Enterprise stents were successfully implanted in all 37 patients with very small ruptured intracranial aneurysms. Of the 37 individuals, 28 patients exhibited complete occlusion at Raymond grade I, 5 patients exhibited occlusion at Raymond grade II, and 4 patients at Raymond grade III. Procedure-related complications occurred in 3 of 37 patients (8.1%), including 1 case of intraprocedure aneurysm rupture who died from cerebral herniation caused by severe postoperative cerebral ischemia during the hospital stay, and the other 2 complications were acute in-stent thrombosis, and occlusion of parent artery caused by falling-off internal carotid artery plaque, respectively. A total of 36 patients underwent postoperative clinical follow-up visits for 6 to 24 months of which 31 patients recovered (GOS ≥ 4). One patient had hemiplegic paralysis, and no

rehemorrhage was found. A total of 25 patients underwent follow-up digital subtraction angiography (DSA) at 3-21 months postintervention, in whom there were 22 cases with complete occlusion, 2 cases with recurrence of aneurysm neck, and 1 case with in-stent restenosis, but there was no patient with neurologic deficits.The Enterprise stent-assisted coiling embolization can be a safe and effective technique for treatment of very small ruptured intracranial aneurysms [1].

2012

In clinical evaluation, five patients ranging in age from 54 to 71 years were electively treated. The smallest aneurysm measured 3.3 x 2.9 mm, and the largest aneurysm measured 10.6 x 8.5 mm (neck and height measurements).

All five cases (100%) were technically successful without complications. In each case, the stent was accurately placed in the desired location, immediately followed by coil embolization to the desired degree of occlusion with a satisfactory result. The poststent and coil-occlusion angiogram demonstrated excellent blood flow across the stent, with satisfactory positioning of the coils within the aneurysm in all cases (100%). No patient suffered any clinical or neurologic complications, and all were discharged 1-3 days postprocedure, in stable condition with no new neurologic deficits.

In early clinical studies, the Enterprise stent performed well. The stent was able to be well visualized, deployed easily, could be repositioned if needed, and was accurately placed without technical difficulties. The closed cell design allowed all coils to be placed within the aneurysm and remain outside the flow of the parent artery. No periprocedural complications were encountered [2].

1)
Qin F, Li Z, Fang X, Zhao X, Liu J, Wu D, Lai N. Therapeutic effect of enterprise stent-assisted embolization for very small ruptured intracranial aneurysms. Medicine (Baltimore). 2017 Aug;96(34):e7832. doi: 10.1097/MD.0000000000007832. PubMed PMID: 28834890.
2)
Vajda Z, Schmid E, Güthe T, Klötzsch C, Lindner A, Niehaus L, Sperber W, Peters J, Arnold G, Bäzner H, Henkes H. The modified Bose method for the endovascular treatment of intracranial atherosclerotic arterial stenoses using the Enterprise stent. Neurosurgery. 2012 Jan;70(1):91-101; discussion 101. doi: 10.1227/NEU.0b013e31822dff0f. PubMed PMID: 21778921.