

## Perdenser® coils for anterior choroidal artery aneurysms

Anterior cerebral choroidal artery aneurysms account for 2%-5% of all intracranial aneurysms [1]. As an important blood supply site, the anterior choroidal arteries are the last important branch before the internal carotid arteries are bifurcated, wherein 98% of the anterior choroidal arteries are 2.4 mm distal to the posterior communicating arteries[2], 70% of the anterior choroidal arteries have no branches, and mostly arise from the posterior-lateral internal carotid arteries[3], and a minority of anterior choroidal arteries originate from the posterior communicating arteries or the middle cerebral arteries[4]. From the posterior-medial carotid cistern, they move backwards into the choroid fissure along the ventral optic tract and emit small branches to supply the optic tract, the medial segment of the globus pallidus, uncinate gyrus, hippocampus, etc. Meanwhile, branch supply is emitted at the level of the lateral geniculate nucleus, including the optic radiation and auditory radiation, and the tail of the caudate nucleus [5-6]. Afterwards, they wavyly move upwards in the cerebral ventricle along medial choroid plexus to trigone of lateral ventricles, then dock and coincide with the posterolateral choroidal arteries from the posterior cerebral arteries. Therefore, the size of choroid and blood supply area vary greatly. In the early craniotomy treatment, the choroidal injury caused by the clipping of the anterior choroidal artery aneurysms may cause hemiplegia of contralateral limb, the contralateral homonymous hemianopsia and dysarthria, which is the anterior choroidal artery syndrome [7].

With the continuous improvement of the medical care, endovascular interventional treatment can better confirm the relationship between choroid and aneurysms, monitor unobstruction of the choroid at any time during the operation, and take measures as soon as possible after obstruction, thereby having obvious advantages in avoiding the occurrence of anterior choroidal syndrome.

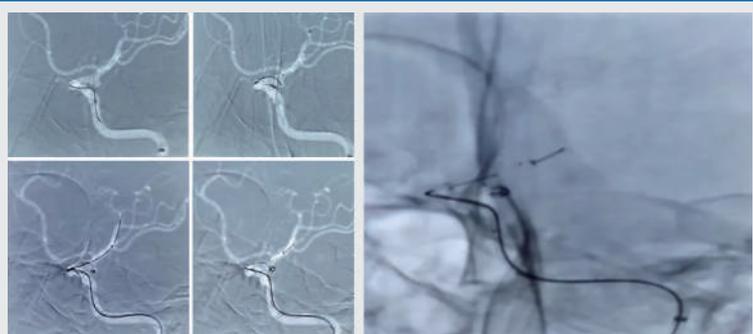
Since stents assisted coils embolization is first used for treating intracranial aneurysms in China in 2000 [8], it has made great progress in the success rate and efficacy of surgery. The key to embolize aneurysms and prevent recurrence and rupture of aneurysms is to densely embolize aneurysms [9]. Embolization of the aneurysms with stent-assisted coils can prevent the coils from penetrating into the parent arteries, prevent the coils from being compressed again resulting in the recurrence of the aneurysms, and promote the formation of endarterium at aneurysmal neck while changing hemodynamics, thereby reducing risk of recurrence[10].

The case for share is combination of Perdenser® coils from TJWY MEDICAL along with stenting in the treatment of anterior cerebral choroidal artery aneurysms.

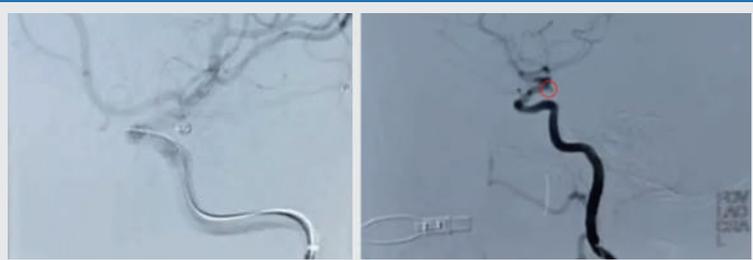
**Basic Patient Information:** Female, 65 years old. Headache before admission.



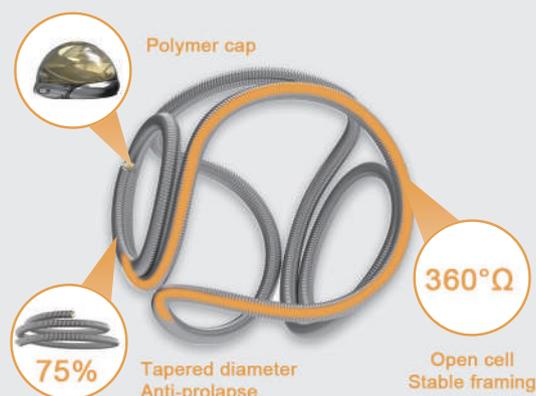
Diagnosis under preoperative DSA: anterior choroidal artery aneurysms at right cerebrum. Size of aneurysm: 3.4mm\*2.5mm\*2.9mm.



After the microcatheter was in place under the guidance of the roadmap during the operation, the Perdenser® 2mm\*3cm-3D coil from TJWY MEDICAL with the assistance of the stent was used to fill. Finally, the stent was expanded and released against blood vessel near the aneurysmal neck to obtain better coverage of aneurysmal neck. The operation was smooth, and immediately achieved dense embolization with satisfactory effect.



Postoperative images showed that there was no residual contrast agent in the aneurysmal cavity, and a dense embolization was achieved.



- Rapidly and stably release
- Effectively shorten the operation time
- Especially in the treatment of ruptured aneurysms

### References

- [1] Kim BM;Kim DI; Chung EC Endovascular coil embolization for anterior choroidal artery aneurysms 2008 (3)
- [2] Gibo H,Lenkey C, Rhoton AL Jr. Microsurgical anatomy of the supraclinoid portion of the internal carotid artery [J]. J Neurosurg 1981, 55 (4) : 560-574.
- [3] Nomura M,Kida S. Anomalous origin of anterior choroidal artery associated with aneurysm [J]. Acta Neurochirurgica, 2000, 142 (9) :1067-1068.
- [4] Cho MS,Kim MS. Analysis of clip-induced ischemic complication of anterior choroidal artery aneurysms [J]. J Korean Neurosurg Soc, 2008, 43 (3) : 131-134.
- [5] Inci S, Arat A, Ozgen T. Distal anterior choroidal artery aneurysms [J]. Surg Neurol, 2007, 67 (1) : 46-52.
- [6] Z, Yang SH. Definition of the anterior choroidal artery territory in rats using intraluminal occluding technique [J]. J Neurosci, 2000, 182 (1) : 16-28.
- [7] Takahashi S, Ishii K. The anterior choroidal artery syndrome. II. CT and/or MR in angiographically verified cases [J]. Neuroradiology, 1994, 36 (5) : 340-345.
- [8] Liu J., Hong B., Xu Y. et al. Treatment of an intracranial fusiform vertebral artery aneurysm with endovascular stent and Guglielmi detachable coils. Acad J Second Mil Med Univ. 2000; 21: 1052-1054
- [9] Kawanabe Y, Sadato A, Taki W, et al. Endovascular occlusion of intracranial aneurysms with Guglielmi detachable coils: correlation between coil packing density and coil compaction [J]. Acta Neurochir (Wien), 2001, 143 (5) : 451-455.
- [10] Wanke I, Forsting M. Stents for intracranial wide-necked aneurysms: more than mechanical protection [J]. Neuroradiology, 2008, 50 (12) : 991-998.

Beijing Taijieweiye Technology Co., Ltd

Address: 21 West Panlong St., Building 4, Mafang Town, Pinggu District, Beijing, China 101204  
 Website: <http://en.lepumedical.com>  
 Sales Manager: Ema Huang  
 Email: [yuan\\_huang@lepu-medical.com](mailto:yuan_huang@lepu-medical.com)  
 Tel: +86 138 - 1139 - 8042