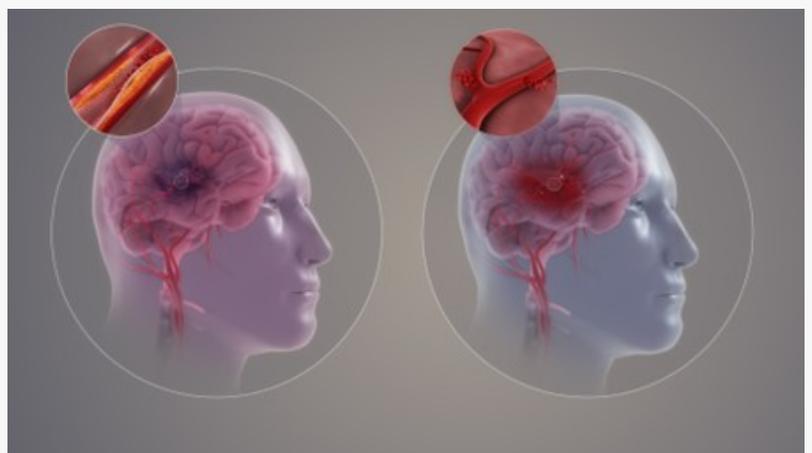


Chinese Neurosurgical Journal Study Shows Neuroform Atlas Stent-Assisted Coiling is Effective Even in Smaller Arteries

Neuroform Atlas stent-assisted coiling yields favorable outcomes in treatment of intracranial aneurysms in arteries less than 2.5 mm in diameter

BEIJING, BEIJING, CHINA, January 9, 2026 /EINPresswire.com/ -- Aneurysm is the widening or dilation of blood vessels due to weakness of the vessel wall. Such widening of blood vessels can result in rupture of the blood vessel and hemorrhage. If the dilation occurs in blood vessels of the brain, it is referred to as intracranial or cerebral aneurysm. Unruptured intracranial aneurysms can be detected radiologically with advanced medical imaging techniques such as computed tomographic angiography or magnetic resonance angiography.



Neuroform Atlas stent is designed for stent-assisted coiling in arteries of diameter 2.0–4.5 mm, and in this study, it is shown to be safe and effective, yielding favorable short-term outcomes even in vessels smaller than 2.5 mm in diameter.

Brain aneurysms are often treated by stent-assisted placement of coils in the dilated area that induce clotting and prevent further bleeding. The Neuroform Atlas stent (NAS) used for stent-assisted coiling is designed for placement in 2.0–4.5 mm vessels. It is not known whether NAS is effective in treatment of aneurysms in smaller blood vessels. A group of researchers led by Professor Rui Xu at the Department of Interventional Radiology, The Affiliated Hospital of Qingdao University, China, sought to address this important clinical question.

Explaining the objective of their study, Prof. Xu says, “NAS is a newly developed stent that features the ability to navigate through small and highly tortuous vessels, but there are very few reports on the feasibility and safety of placing NAS in small-diameter vessels.” This study, published in Volume 11 Article number 4 of the [Chinese Neurosurgical Journal](#) on February 11, 2025, reports analysis of clinical data from 50 patients with intracranial aneurysms who received NAS in parent arteries of diameter less than 2.5 mm.

The researchers collaborated with Shandong University, China and evaluated the follow-up angiography images that included computed tomographic angiography, magnetic resonance angiography, and digital subtraction angiography. Clinical outcomes were analyzed using the modified Raymond-Roy classification and modified Rankin Scale (mRS). The analysis revealed that the NAS-assisted coiling procedure was successful in all patients with majority of the cases achieving complete resolution of the vessel dilation. Only three patients with follow-up reported recurrence of aneurysm, with only one patient requiring an additional procedure. Also, only one patient was observed with poor neurological outcomes. The postoperative complication rates were very low.

Treatment complications due to perioperative ischemic (insufficient blood supply) or hemorrhagic events (bleeding from a damaged blood vessel) are a significant limiting factor for stent implantation in small parent arteries. This study recommends the timely postoperative use of antiplatelet medication tirofiban to further reduce the risk of ischemic complications. Additionally, the authors note that based on the patient's condition, in case of unruptured aneurysms, administering dual antiplatelet therapy preoperatively, and tirofiban intraoperatively are beneficial. Also, in case of ruptured aneurysms, administering tirofiban intraoperatively, and dual antiplatelet therapy postoperatively are effective.

Additionally, the authors suggest that when a patient exhibits newer neurological impairments, an immediate computed tomography scanning should be done to identify or rule out the chances of intracranial hemorrhage. If no hemorrhage has been found, then intravenous tirofiban should be administered intravenously.

Overall, the study provides preliminary evidence that NAS is safe and effective in arteries smaller than 2.5 mm in diameter. Attributing the favorable outcomes to special features of the ATLAS stent, Prof. Xu clarifies, "Previous stent catheters were not only too rigid to safely reach the target area but also too large in diameter, potentially obstructing blood flow in small vessels, leading to stagnation and subsequent ischemic events. In contrast, the ATLAS stent can be deployed via microcatheters with an inner diameter of 0.0165–0.017 inches."

The absence of direct comparison with other stents used for the same purpose and lack of data from additional centers using NAS, limits the conclusions drawn from this study. Future studies addressing the long-term impact of NAS in smaller blood vessels will benefit clinical practice and expand the utility of NAS in treating aneurysms in both small and medium-sized blood vessels.

Reference

Titles of original papers:

Journal: Preliminary outcomes of Neuroform Atlas stent-assisted coiling for intracranial aneurysms with small parent vessels

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About the University:

The Affiliated Hospital of Qingdao University was founded in 1898 and stands as a premier tertiary medical and teaching institution in Qingdao, China. With a strong foundation in clinical excellence, medical education, and scientific research, it operates across multiple campuses and houses over 5,000 beds. The hospital offers advanced care in specialties such as organ transplantation, oncology, and precision medicine. As a major teaching base of Qingdao University, it trains thousands of medical students, residents, and researchers annually. Committed to innovation and global collaboration, the hospital continues to advance healthcare delivery and medical science across China and beyond.

Website: <https://www.qduh.cn/enhome>

About the author:

Professor Rui Xu is a leading interventional radiologist at The Affiliated Hospital of Qingdao University, where he serves as Deputy Director of the Interventional Medicine Center. His clinical expertise includes neurovascular interventions, such as aneurysm embolization, carotid stenting, and mechanical thrombectomy, as well as tumor-targeted therapies. He has published over 50 academic papers, including several in SCI-indexed journals, and contributed to multiple medical textbooks. Prof. Xu also leads national and provincial research projects and is actively involved in mentoring postgraduate students. His work reflects a strong commitment to advancing minimally invasive therapies and improving outcomes in neurological and oncological care.

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