

**Comparing treatment outcomes of various intracranial bifurcation  
aneurysms locations using the Woven EndoBridge (WEB) device:  
Retrospective cohort study**

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## **ABSTRACT**

**Background:** The Woven EndoBridge (WEB) device has Food and Drug Administration approval for treatment of wide-necked intracranial bifurcation aneurysms. The WEB device has been shown to result in adequate occlusion in bifurcation aneurysms overall, but its usefulness in the individual bifurcation locations has been evaluated separately only in few case series, which were limited by small sample sizes.

**Objective:** To compare angiographic and clinical outcomes after treatment of bifurcation aneurysms at various locations, including anterior communicating artery (ACoMA), anterior cerebral artery (ACA) bifurcation distal to ACoMA, basilar tip, internal carotid artery (ICA) bifurcation, and middle cerebral artery (MCA) bifurcation aneurysms using the WEB device.

**Methods:** A retrospective cohort analysis was conducted at 22 academic institutions worldwide to compare treatment outcomes of patients with intracranial bifurcation aneurysms using the WEB device. Data include patient and aneurysm characteristics, procedural details, angiographic and functional outcomes, and complications.

**Results:** A total of 572 aneurysms were included. MCA (36%), ACoMA (35.7%), and basilar tip (18.9%) aneurysms were most common. The rate of adequate aneurysm occlusion was significantly higher for basilar tip (91.6%) and ICA bifurcation (96.7%) aneurysms and lower for ACA bifurcation (71.4%) and ACoMA (80.6%) aneurysms ( $p=0.04$ ).

**Conclusion:** To our knowledge, this is the most extensive study to date that compares the treatment of different intracranial bifurcation aneurysms using the WEB device. Basilar tip and ICA bifurcation aneurysms showed significantly higher rates of aneurysms occlusion than other locations, but there was no significant difference in the complication rate between different locations.