

Double-balloon remodeling

The advantage of double-balloon [remodeling](#) with compliant balloons is that it permits the treatment of wide-necked aneurysms. Side-branch protection and sealing of the neck may be better with this technique than with the single-balloon technique because one balloon is used on each side branch instead of a single balloon bulging into the neck of the aneurysm. Although the simultaneous use of multiple catheters is a potential risk factor for thromboembolic events during coiling ¹⁾

Endovascular treatment for [wide-necked posterior communicating artery aneurysm](#) with a [Fetal-type posterior cerebral artery](#) (PCA) is often challenging. Since the complete [occlusion](#) rates achieved with the currently available treatment methods are unsatisfactory, Nariai et al. aimed to study the [effectiveness](#) of a [double-balloon remodeling](#) technique for these aneurysms. From September 2014 to August 2020, 6 consecutive patients with PcomA aneurysms with [Fetal-type posterior cerebral artery](#) and no previous treatment were treated with this technique (3 ruptured cases and 3 unruptured cases). The indication for this technique is that the [aneurysm neck](#) should significantly and broadly incorporate both the [internal carotid artery](#) and [Fetal-type posterior cerebral artery](#), such that a single-[balloon remodeling](#) and a single stent would be inadequate to protect both the arteries. In all patients, the fetal-type PCAs were preserved without a stent and with adequate occlusion status. This double-balloon technique can be effective in the treatment of these aneurysms ²⁾.

¹⁾

Albayram S, Selcuk H, Kara B, Bozdog E, Uzma O, Kocer N, Islak C. Thromboembolic events associated with balloon-assisted coil embolization: evaluation with diffusion-weighted MR imaging. AJNR Am J Neuroradiol. 2004 Nov-Dec;25(10):1768-77. PMID: 15569744; PMCID: PMC8148712.

²⁾

Nariai Y, Takigawa T, Hyodo A, Suzuki K. Double-Balloon-Assisted Coiling for Wide-Necked Posterior Communicating Artery Aneurysms with a Fetal-Type Variant of the Posterior Cerebral Artery: A Case Series. Neurointervention. 2022 Aug 31. doi: 10.5469/neuroint.2022.00276. Epub ahead of print. PMID: 36043269.

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