

Y-stent

Bifurcation aneurysms can be treated with stent-assisted coiling using two stents in a Y-configuration. Granja et al. aimed to investigate the angiographic and clinical outcomes of Y-stent constructs for the intracranial aneurysm treatment.

Methods: A systematic review of PubMed, Ovid MEDLINE, and Ovid EMBASE databases was conducted based on PRISMA guidelines. The study selection was performed using the 'Ryvan' application. Our analysis included 18 studies with 327 patients. Inclusion criteria were: articles published from January 2000 to November 2017, English language, including cerebral aneurysms treated via Y-stenting, and ≥ 5 cases with radiographic/clinical outcomes. Technical notes, editorials, reviews, and animal studies were excluded. A random-effect meta-analysis was performed on angiographic and clinical outcomes, including aneurysm occlusion, modified Rankin Scale, neurological outcome, and procedure-related mortality. 95% CIs and event rates were estimated. Statistical heterogeneity was assessed using I² statistics.

Results: The procedure-related good outcome rate was 92% and complete occlusion rate was 91%. The permanent neurological deficit rate was 4% and procedure-related mortality was 2%. The procedure-related stroke rate was 12%. A total of 28/146 (19%) patients had ruptured aneurysms. At long-term follow-up, overall stroke rate was 9% in patients with unruptured aneurysm. The mortality rate was higher in cases with ruptured aneurysms than in those with unruptured aneurysms (18% vs 0.8%; $p < 0.001$).

Conclusions: Y-stenting for bifurcation aneurysms yields a high rate of complete occlusion and low rates of mortality and stroke. Careful patient selection is needed ¹⁾.

¹⁾

Granja MF, Cortez GM, Aguilar-Salinas P, Agnoletto GJ, Imbarrato G, Jaume A, Aghaebrahim A, Sauvageau E, Hanel RA. Stent-assisted coiling of cerebral aneurysms using the Y-stenting technique: a systematic review and meta-analysis. J Neurointerv Surg. 2019 Jul;11(7):683-689. doi: 10.1136/neurintsurg-2018-014517. Epub 2019 Jan 4. PMID: 30610070.

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