

# Obliteration

To cause to disappear (as a bodily part or a scar) or collapse (as a duct conveying body fluid) a blood vessel obliterated by inflammation.

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[Cerebral arteriovenous malformation embolization](#) prior to [stereotactic radiosurgery \(SRS\)](#) has been reported to negatively affect [obliteration](#) rates. The goal of a [systematic review](#) and [metaanalysis](#) was to compare the [outcomes](#) of [AVMs](#) treated with [embolization](#) plus SRS (E+SRS group) and those of AVMs treated with SRS alone (SRS group).

A [literature review](#) was performed using [PubMed](#) to identify studies with 10 or more AVM patients and obliteration data for both E+SRS and SRS groups. A meta-analysis was performed to compare obliteration rates between the E+SRS and SRS groups.

Twelve [articles](#) comprising 1716 [patients](#) were eligible for analysis. Among the patients with radiological follow-up data, complete obliteration was achieved in 48.4% of patients (330/681) in the E+SRS group compared with 62.7% of patients (613/978) in the SRS group. A meta-analysis of the pooled data revealed that the obliteration rate was significantly lower in the E+SRS group (OR 0.51, 95% CI 0.41-0.64,  $p < 0.00001$ ). Symptomatic adverse radiation effects were observed in 6.6% (27/412 patients) and 11.1% (48/433 patients) of the E+SRS and SRS groups, respectively. The annual post-SRS hemorrhage rate was 2.0%-6.5% and 0%-2.0% for the E+SRS and SRS groups, respectively. The rates of permanent morbidity were 0%-6.7% and 0%-13.5% for the E+SRS and SRS groups, respectively.

Arteriovenous malformation treatment with combined embolization and SRS is associated with lower obliteration rates than those with SRS treatment alone. However, this comparison does not fully account for differences in the initial AVM characteristics in the E+SRS group as compared with those in the SRS group. Further studies are warranted to address these limitations <sup>1)</sup>.

## Intracranial aneurysm obliteration

see [Intracranial aneurysm obliteration](#).

## Arteriovenous malformation obliteration

[Arteriovenous malformation obliteration](#).

<sup>1)</sup>

Russell D, Peck T, Ding D, Chen CJ, Taylor DG, Starke RM, Lee CC, Sheehan JP. Stereotactic radiosurgery alone or combined with embolization for brain arteriovenous malformations: a systematic review and meta-analysis. J Neurosurg. 2018 May;128(5):1338-1348. doi: 10.3171/2016.11.JNS162382. Epub 2017 May 12. PubMed PMID: 28498057.

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