

Temporary clipping

Intraoperative [aneurysm rupture](#) is associated with a high morbidity and mortality. Temporary vessel occlusion is an integral part of aneurysm clipping to avoid intraoperative hemorrhage. The information concerning the role of temporary occlusion regarding the development of cerebral vasospasm is sparse. The aim of this study was to provide more information in this field.

Woertgen et al. operated on 292 patients suffering from cerebral aneurysms. The data were reviewed from a prospectively collected databank, which includes information about the severity of subarachnoid hemorrhage, as well as transcranial Doppler data and surgical data such as temporary occlusion.

In 50% of our patients, temporary occlusion was performed during surgery. Twenty-nine percent showed an ischemic lesion in the CCT post-operatively, and in 58% of these patients, temporary occlusion was performed (versus 47% without temporary occlusion, $p = 0.09$). The mean occlusion time was longer in patients with radiologic signs of infarction. Furthermore, patients having unfavorable outcome showed a longer temporary occlusion time. Thirty-four percent of patients who underwent temporary vessel occlusion developed vasospasm postoperatively (versus 20% without temporary occlusion, $p < 0.006$). Temporary occlusion time correlated to the development of vasospasm as defined by transcranial Doppler flow velocity. Forty-eight percent of the patients treated using temporary occlusion suffered from middle cerebral artery aneurysm (versus 22% without temporary occlusion, $p < 0.0001$). An increased blood flow velocity was mostly seen in this region ($p < 0.003$).

According to the results, it seems to be the possible that temporary vessel occlusion is an additional factor in aggravating vasospasm after aneurysmatic subarachnoid hemorrhage ¹⁾.

¹⁾

Woertgen C, Rothoerl RD, Albert R, Schebesch KM, Ullrich OW. Effects of temporary clipping during aneurysm surgery. *Neurol Res.* 2008 Jun;30(5):542-6. PubMed PMID: 18953746.

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