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**Background** To compare efficacy and safety of mechanical thrombectomy (MT) depending on mono versus biplane angiogram (AR), radiation exposure, contrast dose, procedure duration for acute ischemic stroke with large vessel occlusion (AISLVO) according to procedural factors. To realize a systematic literature review on the single/biplane comparison.

**Materials and methods** Between January 2014 and May 2017, 906 consecutive patients from 3 countries with all available data underwent a MT in four centers:

– 330 on a single-plane (SP);

– 576 on a biplane;

– data were retrospectively analyzed.

Efficacy and safety characteristics, radiation dose, contrast load and fluoroscopy duration were analyzed and compared depending on clinical and procedural factors of the AR.

**Results** After multivariate analysis, only contrast load (50% lower) and scopy duration (19% lower) remained significantly lower on biplane versus monoplane. There was no difference concerning procedure duration, radiation doses, rate of successful recanalization, outcome and complication between MP and biplane, Philips and Siemens after multivariate analyses.

Among other factors, general anaesthesia was associated with higher DAP, Kerma, contrast load. Performing an angiogram before MT was associated with increased procedure duration (15% increase), DAP (33% increase), contrast load (125% increase) on univariate analyses.

**Conclusion** Both AR seem to be equivalent in terms of safety and effectiveness for MT. Biplane equipment drastically reduces contrast load. The decision to realize an angiogram before a MT should be clinically motivated because of increased radiation, contrast doses and procedure duration.

**Disclosure of interest** The authors declare that they have no competing interest.

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## Angiographic patterns and the procedural and clinical outcomes achieved by proximal balloon occlusion in Symptomatic Carotid Artery Stenosis Stenting

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**Background and purpose** The best embolic protection strategy has not yet been established for carotid-artery stenting (CAS). We report here a new simplified approach using a balloon guiding catheter, inspired by stroke therapy, in patients harboring symptomatic ICA atherosclerotic stenosis or web. In addition, we describe the 3 angiographic patterns and clinical outcomes associated with this technique, called the simple flow blockage (SFB) technique.

**Materials and methods** This is a retrospective study with data extraction from a monocentric prospective clinical registry of consecutive patients admitted for symptomatic ICA stenosis or web. The primary study outcome (composite endpoint) was the rate of occurrence of death, symptomatic stroke or acute coronary syndrome within 30 days of intervention.

**Results** Seventy-five symptomatic patients with >50% carotid artery atherosclerotic stenosis or web were included. All procedures were successfully performed. The composite endpoint occurred in 3 patients (4.0%, 95%CI, 0.0 to 11.3): 1 had symptomatic ischemic stroke, 1 had reperfusion syndrome with symptomatic intracranial hemorrhage and 1 had acute coronary syndrome. Three angiographic patterns after proximal balloon inflation were observed: complete contrast column stagnation in the ICA (38.7%), retrograde washout of the ICA from the intracranial circulation towards the external carotid artery (35.5%), antegrade washout of contrast medium towards the intracranial circulation (25.8%). The median procedure length was 40 minutes. New asymptomatic ischemic lesions were observed in 22.5% on DWI-MRI.

**Conclusion** The SFB technique allows fast and safe procedures in CAS. A favorable angiographic pattern after proximal balloon inflation was observed in 74.2% of cases.

**Disclosure of interest** The authors declare that they have no competing interest.

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