DOES INITIAL ADC VALUE IS ASSOCIATED WITH SYMPTOMATIC INTRACEREBRAL HEMMORHAGE AFTER MECHANICAL THROMBECTOMY?

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BACKGROUND AND AIMS

Mechanical thrombectomy (MT) is indicated for acute ischemic stroke (AIS) caused by large vessel occlusion. Symptomatic intracerebral hemorrhage (sICH) is a major complication. We hypothesized that a lower Apparent Diffusion Coefficient could be associated with sICH after MT for AIS.

METHODS

All consecutive patients who presented with an AIS and benefited from a MT at CHRU Besançon between January 1st 2015 and December 31st 2016 were included. They were monitored by the Besançon Stroke Registry including modified Rankin Scale scores (mRS) at three months and sICH which was defined by a neurological deterioration (4 points on the NIHSS or more) and parenchymal hematoma during the 24 hours following the procedure. Mean ADC value was calculated by a manual region of interest drawn on the ischemic lesion. ADC reduction was calculated by the difference between the ROI ADC and a the controlateral ROI ADC on the healthy hemisphere.

RESULTS

Sixty-four patients had an MRI with available data for ADC. Mean age was 69, 52% were women, median NIHSS at arrival was 18. Five patients presented an sICH after MT. Patients with sICH had a mean ADC reduction of 43% versus 42% (p=0.9) for non-sICH patients. However, patients with good outcome (mRS 0-2) were associated with a lower reduction of ADC (38% vs 43%, p=0.045).

Table 1a

N	64
Age, med	68.5
Female, %	51.6
NIHSS, med	18
Treatment at arrival	
Anticoagulant	12.5%
Antiplatelet	28.1%
Anticoagulant + antiplatelet	6,3 %
ETIOLOGY	
Cardioembolic	59%
Macroagiopathy (certain)	6.25 %
Macroangiopathy (possible)	9.4%
Other etiology	3.%
Undetermind etiology	22%

Table 1b

OCCLUSION SITE :	
- Right side	39%
- Carotid terminus	22%
- M1 segment	61%
- M2 segment	9%
- Posterior circulation	8%
- Tandem occlusion	16%
Dissection	1.5%
RECANALISATION TIMES	
Symptom onset to puncture	292 mn
Symptom onset to first angio run	307 mn
Puncture to recanalisation	70 mn
GENERAL ANESTHESIA	
Before procedure	42%
During procedure	6%
RECANALISATION	
TICI 2b & 3	70,3 %
mRS	
mRS 0-2	23%

Table 2

		% ADC reduction	p
mRS 0-2	24 %	38 %	
mRS 4-6	76 %	43 %	**0,045**
sICH	8 %	43 %	
Non sICH	92 %	42 %	0,9

CONCLUSION

ADC reduction was not associated with sICH in our cohort, but it could be a good predictor for bad outcome.