Mechanical thrombectomy in unknown time-of-onset stroke: 237 case experience in a tertiary care center.

L. Morales Caba^{1,2}, J.I. Tembl Ferrairo¹, G. Fortea Cabo¹, V. Vázquez-Añón Pérez², F. Aparici Robles², M. Moreno Gambín¹, C. Gimenez Paños¹, A. Lago Martín¹.
¹Hospital Universitari i Politécnic La Fe, Neurology Department Stroke Unit, Valencia, Spain.
²Hospital Universitari i Politécnic La Fe, Interventional Neuroradiology, Valencia, Spain.

Background.

New guidelines establish that acute stroke mechanical thrombectomy (MT) can be performed up to 24 hours after last seen normal, providing a significant infarct volume is ruled out with perfusion neuroimaging.

Our objective is to know if the prognosis differs in patients undergoing mechanical thrombectomy (MT) with unknown time of onset (MT_UT) vs known time of onset (MT_KT) in our center.

Method.

Select all patients treated with MT from January 2014 to July 2018 in Hospital Universitari i Politécnic La Fe with three month after discharge outcome data available.

For both MT_UT and MT_KT groups, demographic characteristics, cardiovascular risk factors, ASPECTS-TC, perfusion mismatch, and outcomes (NIHSS pre MT and at discharge, mRS at discharge and at three months, mRS ≥2 at three months, and death) were analysed.

Results.

237 patients were included. 50 were MT_UT –of them 29 being wake up strokes (58%).

Fibrinolysis treatment was significantly more prevalent among KT patients, as rtPA use in UT stroke patients is not recommended, although it was administered in 21,1% of our unknown time-of-onset on a radiological basis (low core volume, high mismatch).

MT_KT and MT_UT patients were comparable in terms of age, sex, cardiovascular risk and stroke severity :

- Initial NIHSS: MT_KT: 16.40, MT_UT:17.13, p=0.354.
- ASPECTS-TC: MT_KT 8.45, MT_UT 7.76, p=0.112.
- Mismatch: MT_KT 75.93, MT_UT 75.56, p=0.966.

No differences in immediate results were found:

- Discharge NIHSS: MT_KT 8.524, MT_UT 8.815, p=0.838.
- Discharge mRS: MT_KT 3,55, MT_UT 3,53, p=0.53.

And also three months follow up revealed no significant differences in functional outcome:

- Mean mRS: MT_KT 3,26%, MT_UT 2,97%, p=0,51.
- mRS ≥2: MT_KT 56,2% vs MT_UT 60,5%, p=0,34.
- Mortality: MT_KT 19,9%, MT_UT 21,5%, p=0,68.

Conclusions:

- * Patients treated in our center with either wake up or unknown time of onset strokes had similar baseline characteristics, clinico-radiological presentation, mortality and functional outcome than strokes treated with a known time of onset.
- * Currently used perfusion softwares could sufficiently determine good candidates for MT beyond 6 hours.

	Known onset	Unknown	p value
n	183	50	0'4
Age (range)	66 (15-89)	64 (33-82)	0,59
Gender male (%)	57%	50%	0,7
NIHSS admission	17,12	16,40	0,35
ASPECTS	8,45	7,76	0,112
Core volume (mL)	39,72	51,34	0,73
Mismatch (%)	75,56	75,93	0,96
rtPA (%)	78,9%	21,1%	0,04
mRS discharge	3,55	3,53	0,53
NIHSS discharge	8,81	8,52	0,83
mRS at 3 m	3,26	2,97	0,51
mRS ≥ 2 at 3 m	56,2%	60,5%	0,34
mRS = 6 at 3 m	19,9%	21,5%	0,68