Short and long term outcomes in acute ischemic stroke treated with mechanical thrombectomy: a case series of Stroke Unit, Molinette, Torino, Italy.

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Background

Endovascular treatments have the potential to accelerate reperfusion in acute ischemic stroke with large vessel occlusion. Efficacy and safety were demonstrated in recent trials and case series. We describe short and long term outcomes of 74 patients affected by anterior and posterior ischemic stroke treated with mechanical thrombectomy (MT).

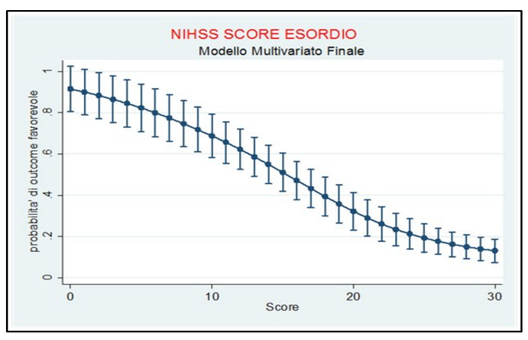
Methods

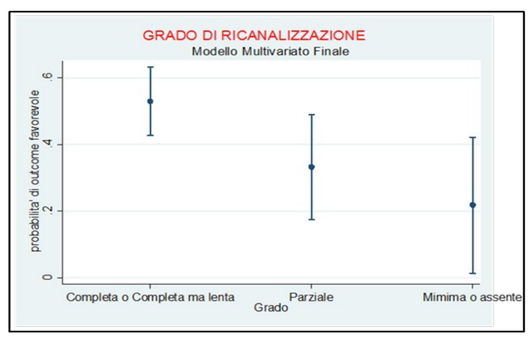
Baseline demographic data such as age and sex, clinical data including cardiovascular risk factors, the NIHSS at admission and at discharge, time to intervention from stroke onset, occlusion localization and grade of revascularization using the TICI score were recorded. TOAST classification was used to classify etiology of stroke. Mortality and mRS score were assessed at 90 days and long term (> 1 year). A multivariable logistic regression analysis was performed.

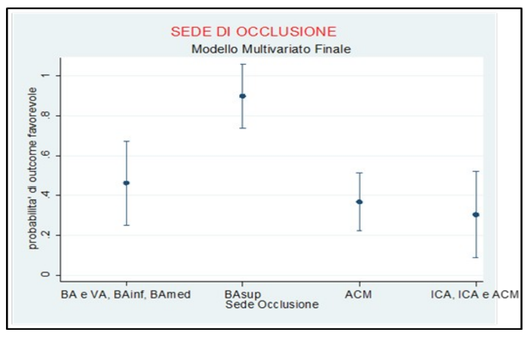
Results

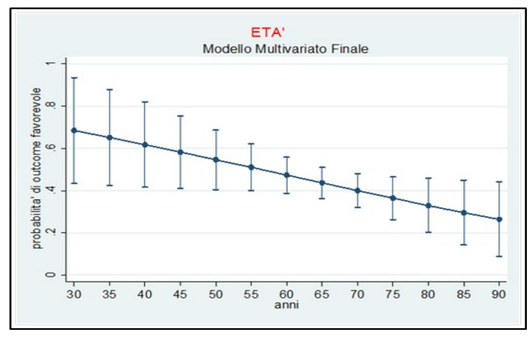
From January 2012 to December 2013, 74 patients (mean age 63 years, 42% F and 58% M, median baseline NIHSS at onset 17) were treated with MT. 50 patients were affected by anterior circulation stroke, 24 were affected by BA occlusion. A good outcome (mRS <2) was achieved in 44.6%. Mortality at 90 days was 14.8%. Symptomatic intracranial haemorrage (sICH) within 24 h occurred in 9.5%. Increased age and higher NIHSS at onset resulted related to poor outcome (p=0.091 and p<0.001 respectively). Large artery atherosclerosis (LAA) was the most frequent cause in both anterior and posterior stroke. Upper basilar artery occlusion resulted in better clinical outcome (p=0.024). Revascularization was successful (TICI 2b/3) in 60% for anterior stroke and 70% for posterior stroke. TICI 0-1 was related with poor outcome (p=0.042). The median time from stroke onset to the start of the procedure was 4,32 h for anterior and 6,25 for posterior stroke. A short time to treatment resulted in a better outcome (p=0.131). Long term (>1 year) outcome revealed increased number of patients with good clinical outcome (54%).

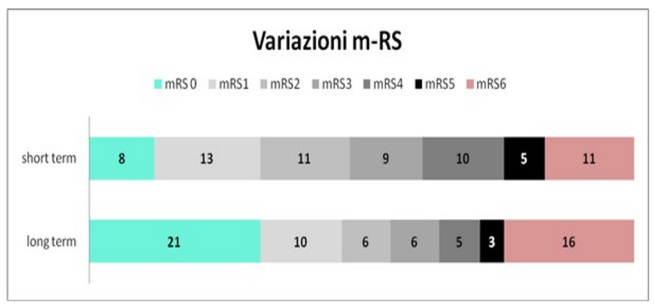
Covariate		R monoV (OR e IC al 95%)	P	R multiV (OR e IC al 95%)	P
Eta'		OR=0.957 (0.921-0.995)	**0.029**	OR=0.926 (0.848-1.012)	**0.091**
Sede occlusione	BA inf /VA BA med	OR=1.00	-	OR=1.00	-
	Ba sup	OR=16.00 (1.54-166.0)	**0.020**	OR=227.7 (2.01-25687.1)	**0.024**
	ACM	1.094 (0.292-4.103)	**0.893**	OR=0.426 (0.030-6.00)	**0.528**
	ICA, ICA e ACM	OR=0.457 (0.094-2.210)	**0.330**	OR=0.225 (0.014-3.55)	**0.290**
NIHSS onset		OR= 0.87 (0.813-0.950)	**0.001**	OR= 0.71 (0.590-0.854)	**<0.001**
Eziologia					
	LAA	OR=0.322 (0.115-0.904)	**0.031**	OR=0.07 (0.0034-1.55)	**0.093**
	CE/altro	0.631 (0.143-2.771)	**0.542**	OR= 0.12 (0.005-2.81)	**0.191**
TICI	Completa (3-2b)	OR=1.00	-	OR=1.00	-
	Parziale 2a	OR=0.242 (0.066-0.881)	**0.031**	OR=0.14 (0.016-1.25)	**0.079**
	Minima/assente (0-1)	OR=0.051 (0.006-0.427)	**0.006**	OR=0.03 (0.001-0.887)	**0.042**
Timing		OR=1.02 (0.877-1.207)	**0.719**	OR=0.75 (0.522-1.08)	**0.131**











Conclusions

Endovascular treatment with MT leds to good clinical outcomes in almost 45% of patients with large vessel acute ischemic strokes. Increased age, higher NIHSS at admission and low TICI score (0-1) were predict factors for 3-months poor outcome. A high rate of good clinical outcomes at 3 months was achieved in patients with upper BA occlusion. A long term outcome extended to at least 1 year could better represent final clinical outcome after endovascular stroke treatment.

References

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