



Servizio Sanitario della Toscana



# **Finestra sul cortile di Santa Maria Nuova: Sonotrombolisi**

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## TISSUE PLASMINOGEN ACTIVATOR FOR ACUTE ISCHEMIC STROKE

THE NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE rt-PA STROKE STUDY GROUP\*

- Trial randomizzato doppio cieco controllato vs placebo.
- Reclutati 624 pz con stroke ischemico acuto entro 3 ore dall'inizio dei sintomi..
- Somministrato rt-PA 0.9 mg/kg (10% bolo; 90% in 1 ora); Max dose 90 mg e.V.
- A termine dei 90 giorni il numero dei pazienti trattati con rt-PA senza disabilità era superiore del 30% rispetto al controllo

# risultati del SITS-MOST



# Effect of treatment delay, age, and stroke severity on the effects of intravenous thrombolysis with alteplase for acute ischaemic stroke: a meta-analysis of individual patient data from randomised trials

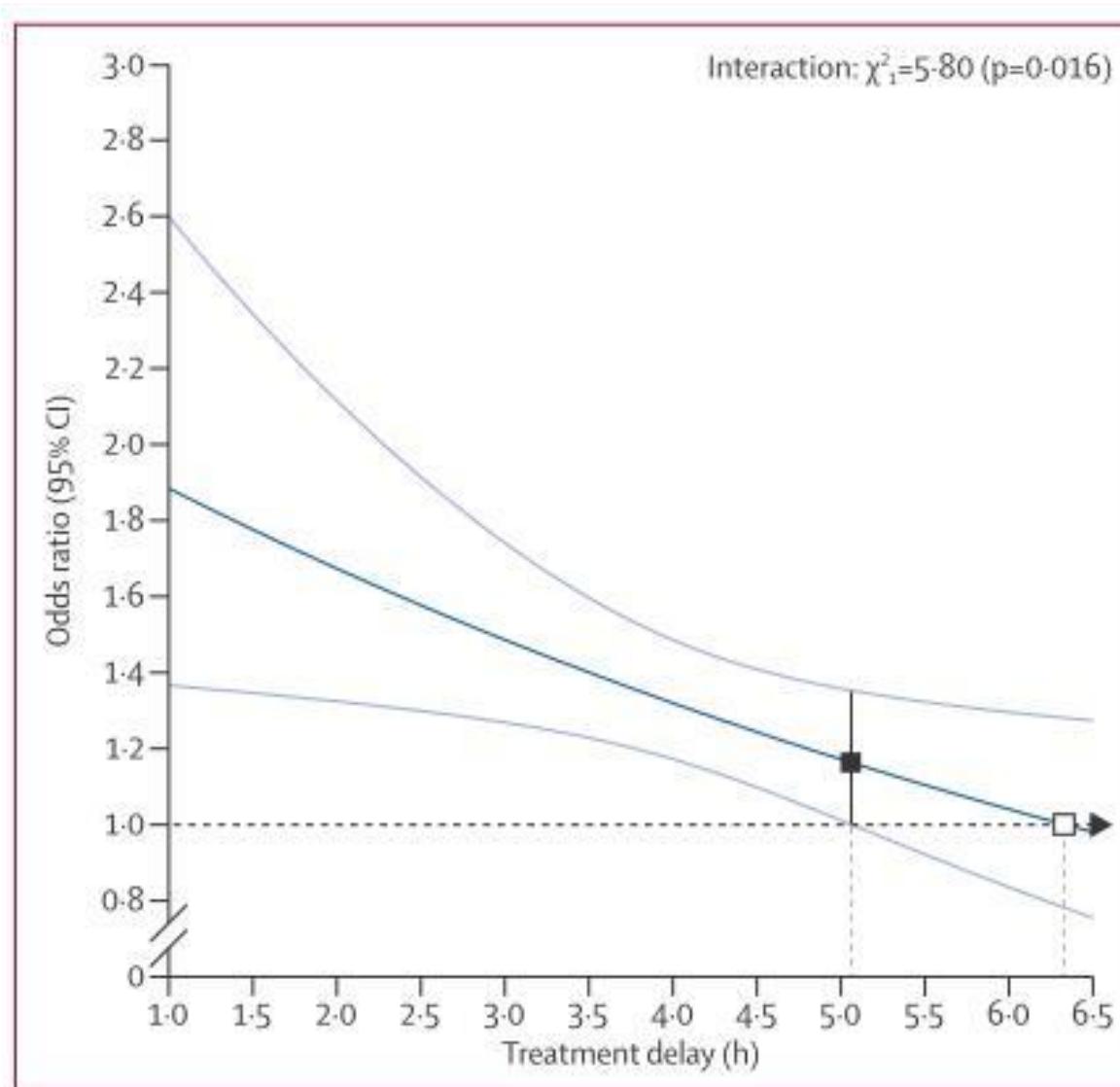


Figure 1: Effect of timing of alteplase treatment on good stroke outcome  
(mRS 0-1)

Emberson J *The Lancet* 2014;384:1929

# **Site of Arterial Occlusion Identified by Transcranial Doppler Predicts the Response to Intravenous Thrombolysis for Stroke**

Maher Saqqur, MD, FRCPC; Ken Uchino, MD; Andrew M. Demchuk, MD, FRCPC;  
Carlos A. Molina, MD; Zsolt Garami, MD; Sergio Calleja, MD; Naveed Akhtar, MD;  
Finton O. Orouk, MD; Abdul Salam, MSc; Ashfaq Shuaib, MD, FRCPC;  
Andrei V. Alexandrov, MD; for CLOTBUST Investigators

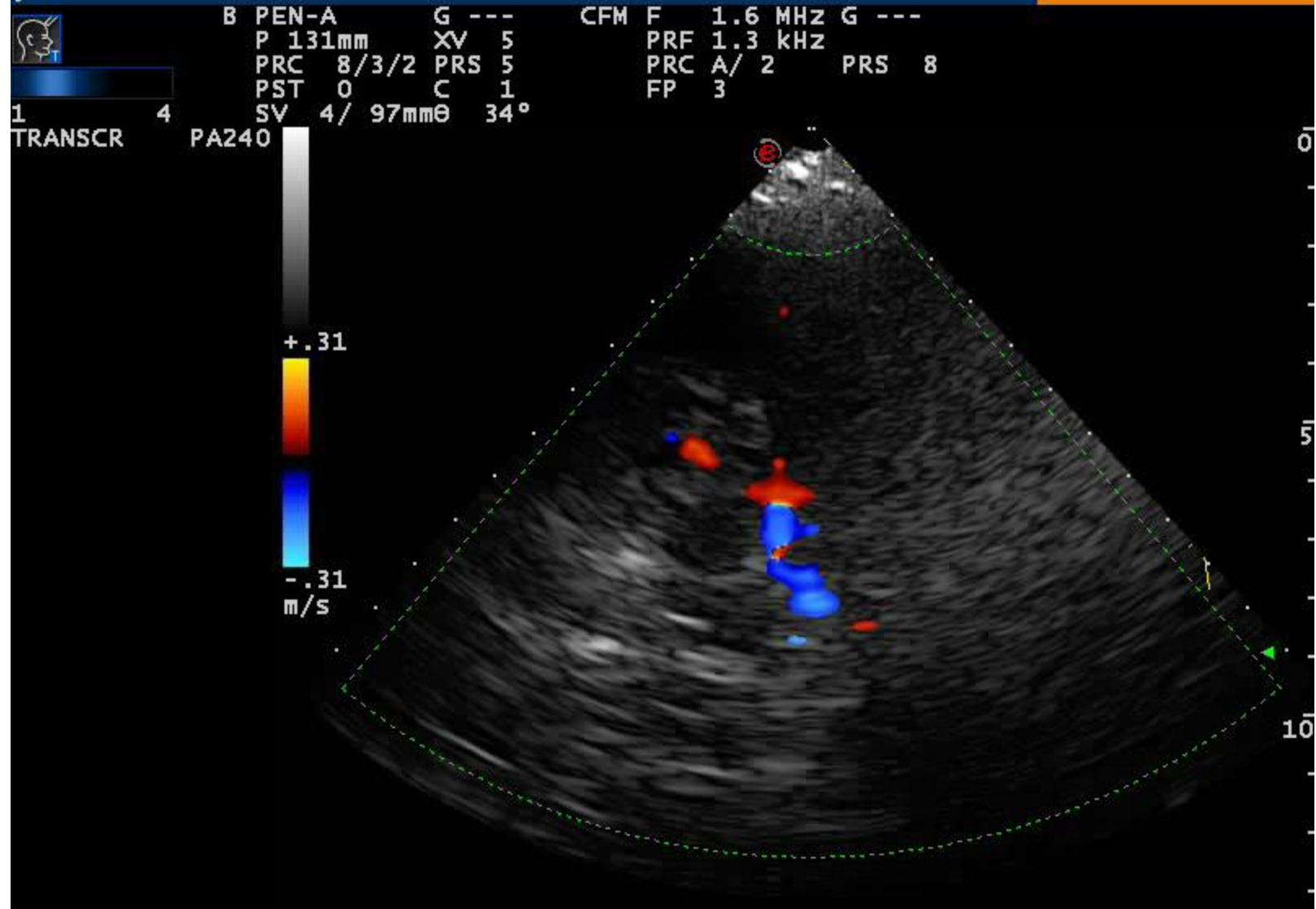
	<b>% NIH a 24H <math>\leq</math> 2</b>	<b>% Rankin S <math>\leq</math> 1</b>
<b>ACM-M2</b>	33% (35 di 107)	52% (50 di 96)
<b>ACM-M1</b>	16% (24 di 155)	25% (33 di 131)
<b>Occ . Tandem</b>	24% (5 di 21)	21% (3 di 14)
<b>Occ. T</b>	0% (14)	18% (2 di 11)
<b>Occ. A. Basilare</b>	25% (2 di 8)	25% (2 di 8)

# Occlusione a T

esaote MyLab

OSP. LIVORNO REP. P.S.

25 GEN 2012 09:44



# Endovascular Therapy

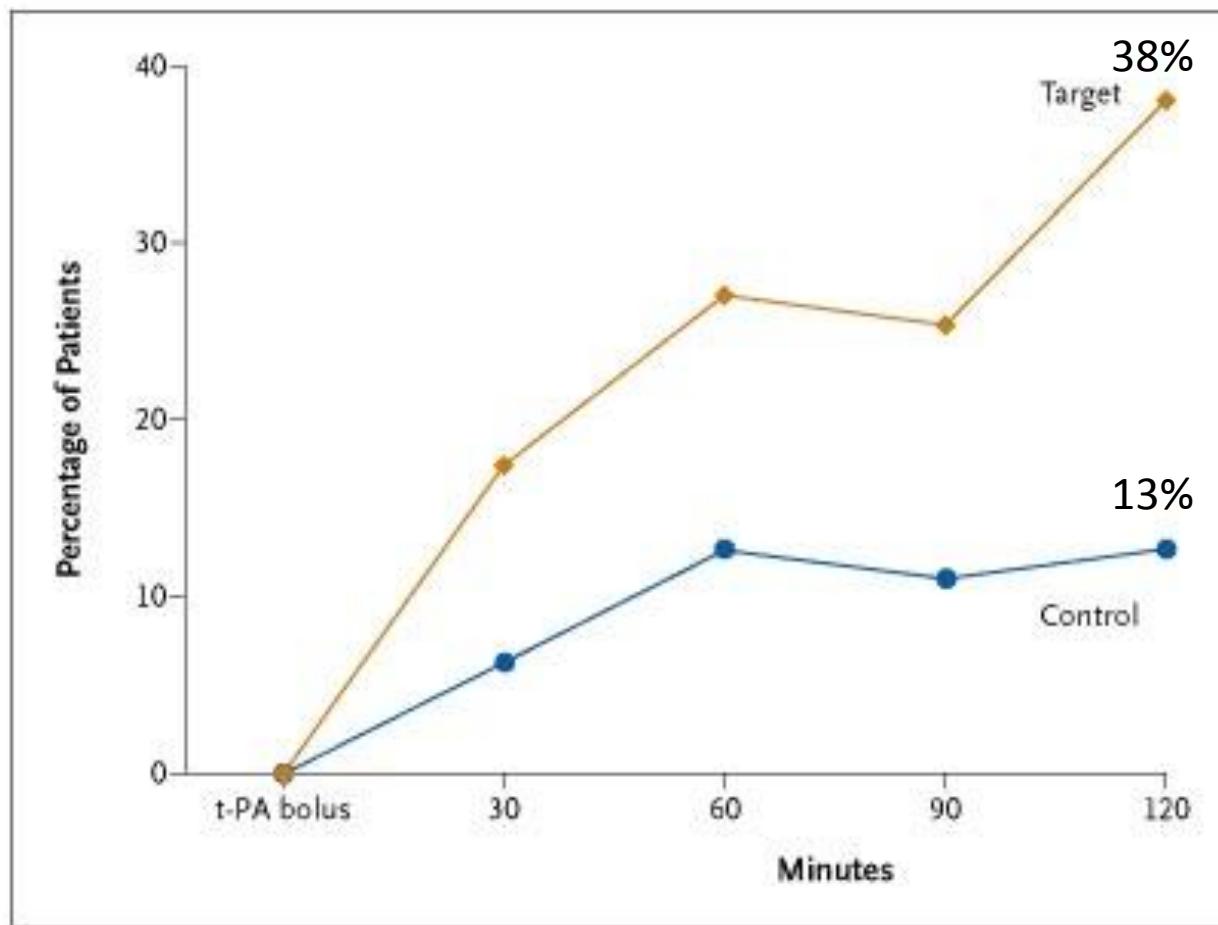
	N° pz.	TLR %	CONTROLLI%
<b>MR CEAN</b>	500	§32,6%	19,1%
<b>EXTEND</b>	70(¢)	§71% (nnt 3,2)	40%
<b>ESCAPE</b>	315	§53%	29%
<b>SWIFT PRIME</b>	196(¢)	§60%(nnt 4)	35%
<b>REVASCAT</b>	206	§43,7%(nnt 6,5)	28,2%

§ Rankin score: 0-2

¢ CT perfusion

# Sonotrombolisi e sonolisi

## Rate of Sustained Complete Recanalization within Two Hours after Administration of a t-PA Bolus



## DATA AND ANALYSES

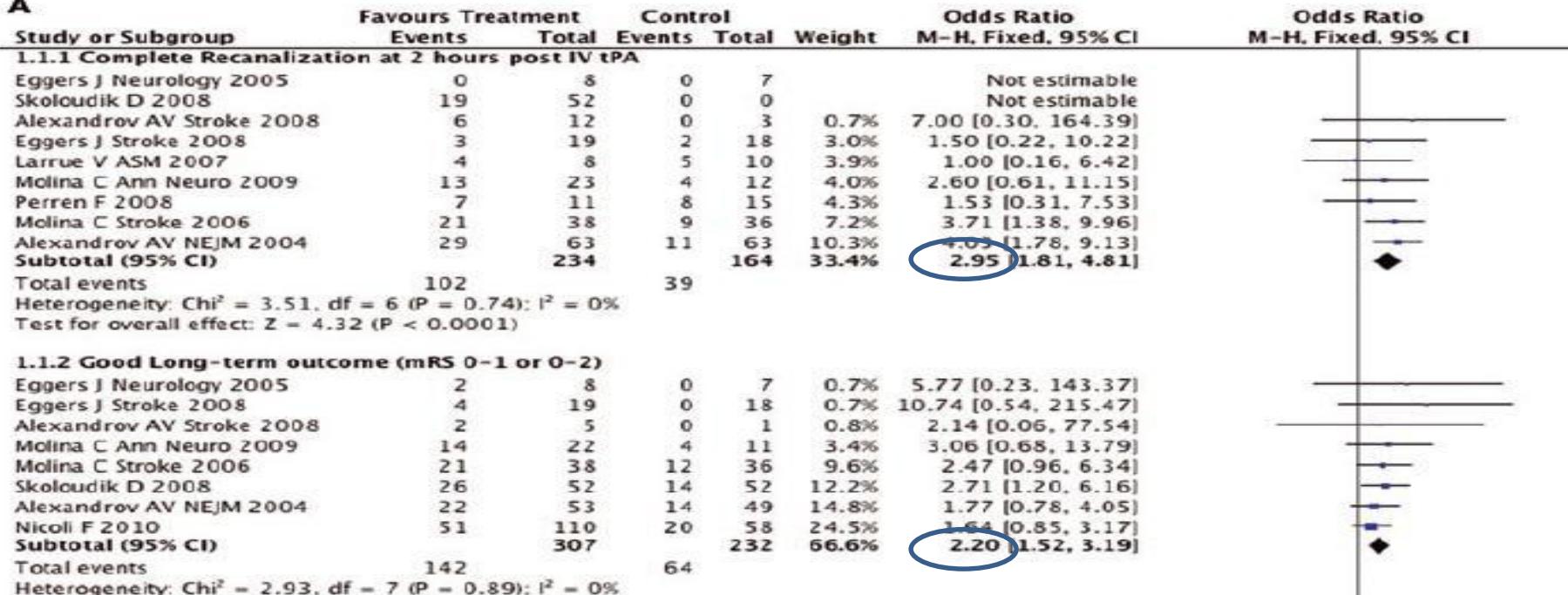
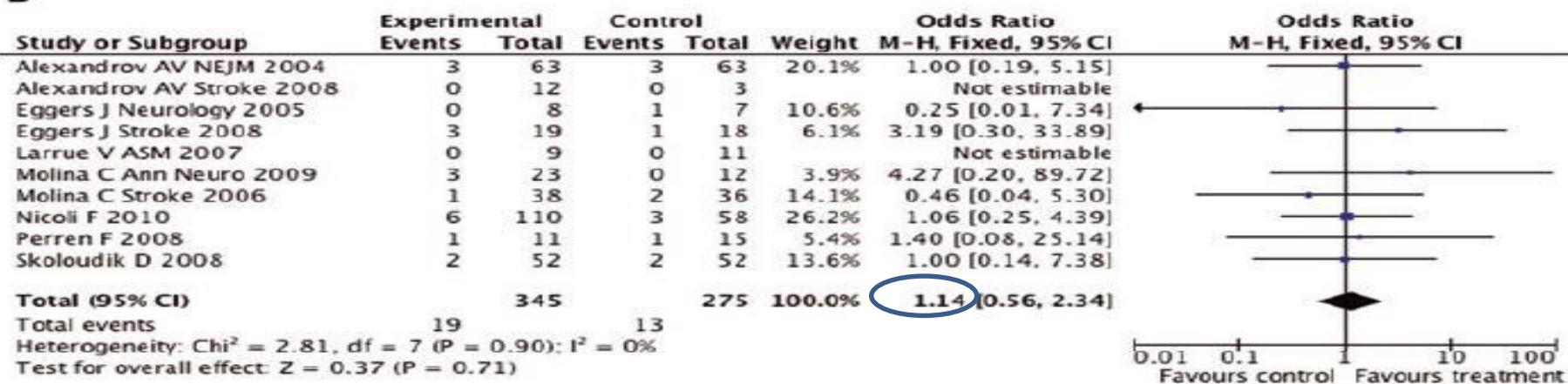
### Comparison 1. Any sonothrombolysis versus control

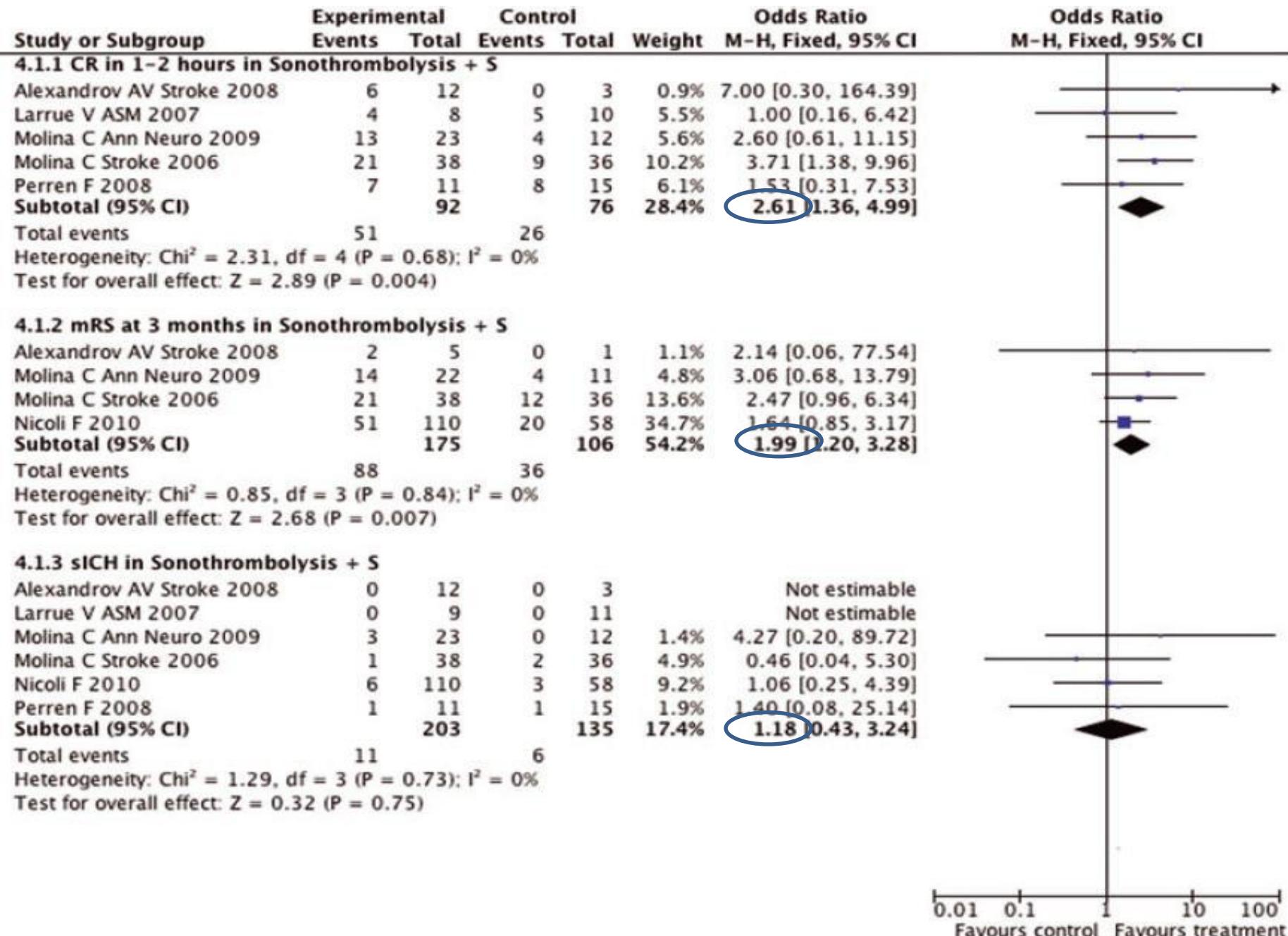
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Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 Death plus disability at 3 months	5	206	Odds Ratio (M-H, Fixed, 95% CI)	0.50 [0.27, 0.91]
2 Failure to recanalise	5	230	Odds Ratio (M-H, Fixed, 95% CI)	0.28 [0.16, 0.50]
3 Symptomatic and asymptomatic cerebral haemorrhage	5	233	Odds Ratio (M-H, Fixed, 95% CI)	2.35 [0.95, 5.80]
4 Death at follow-up	5	206	Odds Ratio (M-H, Fixed, 95% CI)	1.00 [0.46, 2.16]



*The Cochrane Library* 2012, Issue 10

**A****B**



# **CLOTBUST-Hands Free**

## **Pilot Safety Study of a Novel Operator-Independent Ultrasound Device in Patients With Acute Ischemic Stroke**

Andrew D. Barreto, MD; Andrei V. Alexandrov, MD; Loren Shen, BSN; April Sisson, RN;  
Andrew W. Bursaw, DO; Preeti Sahota, MD; Hui Peng, PhD;  
Manouchehr Ardjomand-Hessabi, MD, MPH; Renganayaki Pandurengan, PhD;  
Mohammad H. Rahbar, PhD; Kristian Barlinn, MD; Hari Indupuru, MBBS;  
Nicole R. Gonzales, MD; Sean I. Savitz, MD; James C. Grotta, MD



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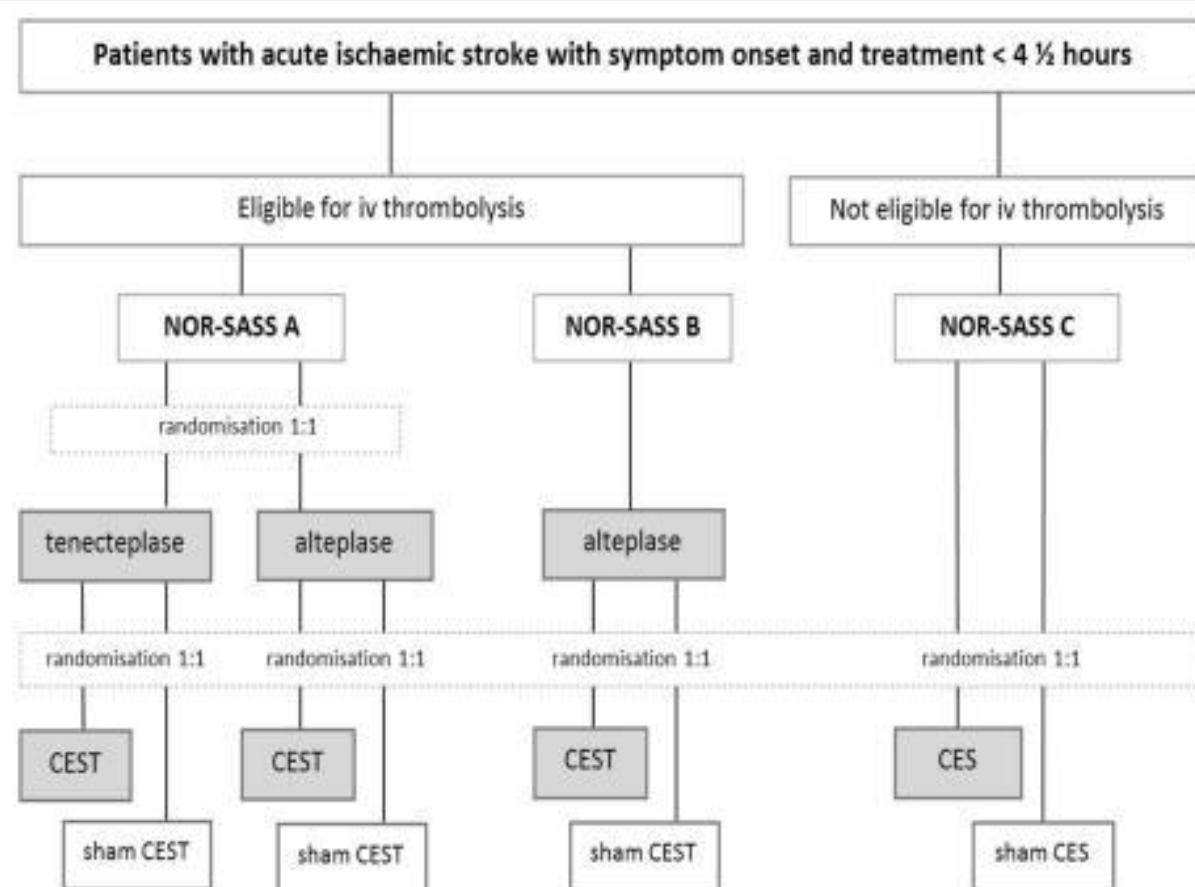
[massimo.delsette@asl5.liguria.it](mailto:massimo.delsette@asl5.liguria.it)

## **ULTRAS pilot study**

**Ultrasound ThRombolysis in Acute ischemic Stroke**

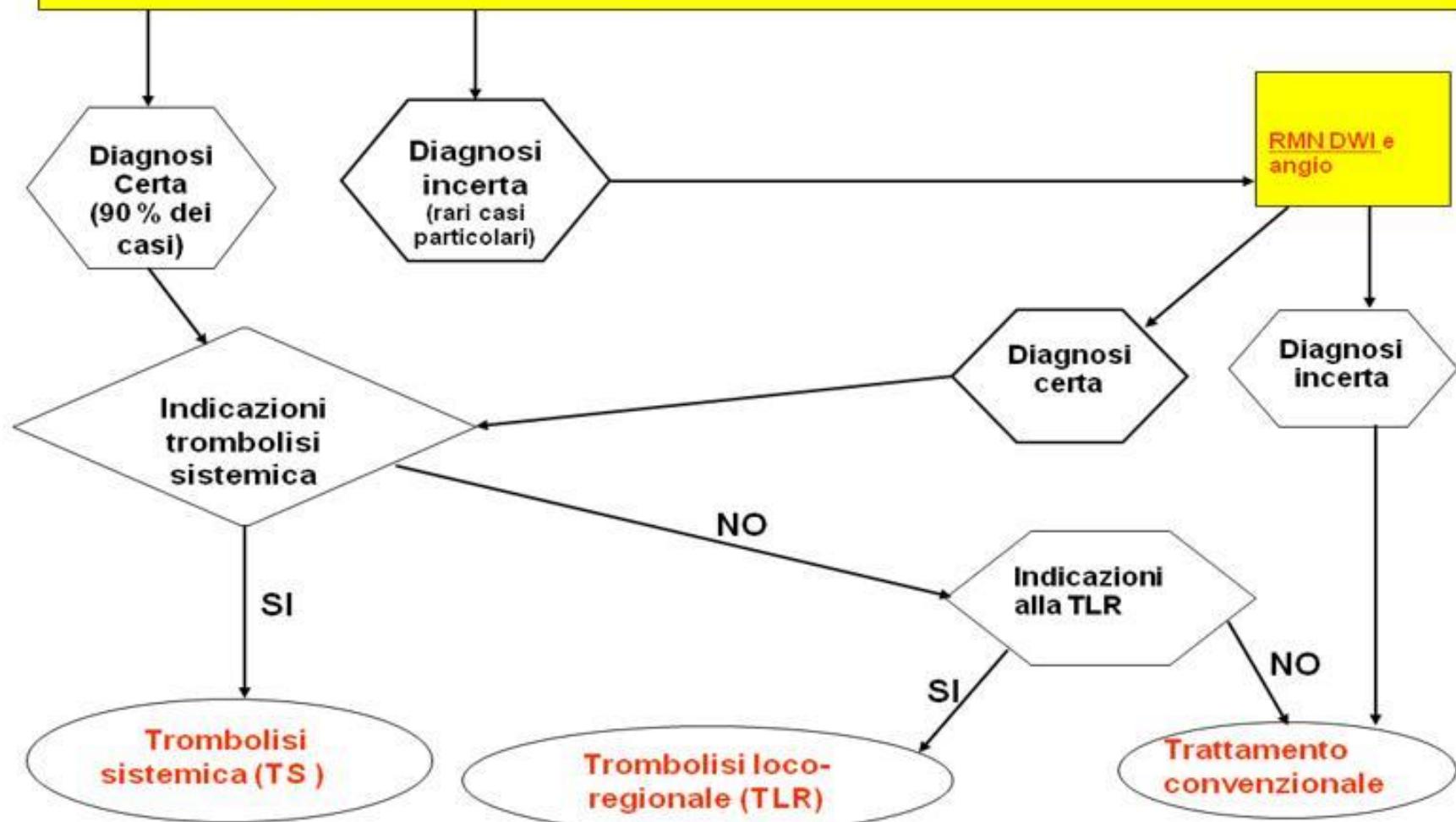
**Sonotrombolisi nell'ictus ischemico acuto**

# A pragmatic approach to sonothrombolysis in acute ischaemic stroke: the Norwegian randomised controlled sonothrombolysis in acute stroke study (NOR-SASS)



**Fig. 1** Randomization and flowchart. CEST Contrast enhanced sonothrombolysis with thrombolytic agent. CES Contrast enhanced sonolysis without thrombolytic agent

Anamnesi , EO, esami ematochimici , tc cranio diretto+angiografia cerebrale (non attendere refertazione di quest'ultima per iniziare TS)

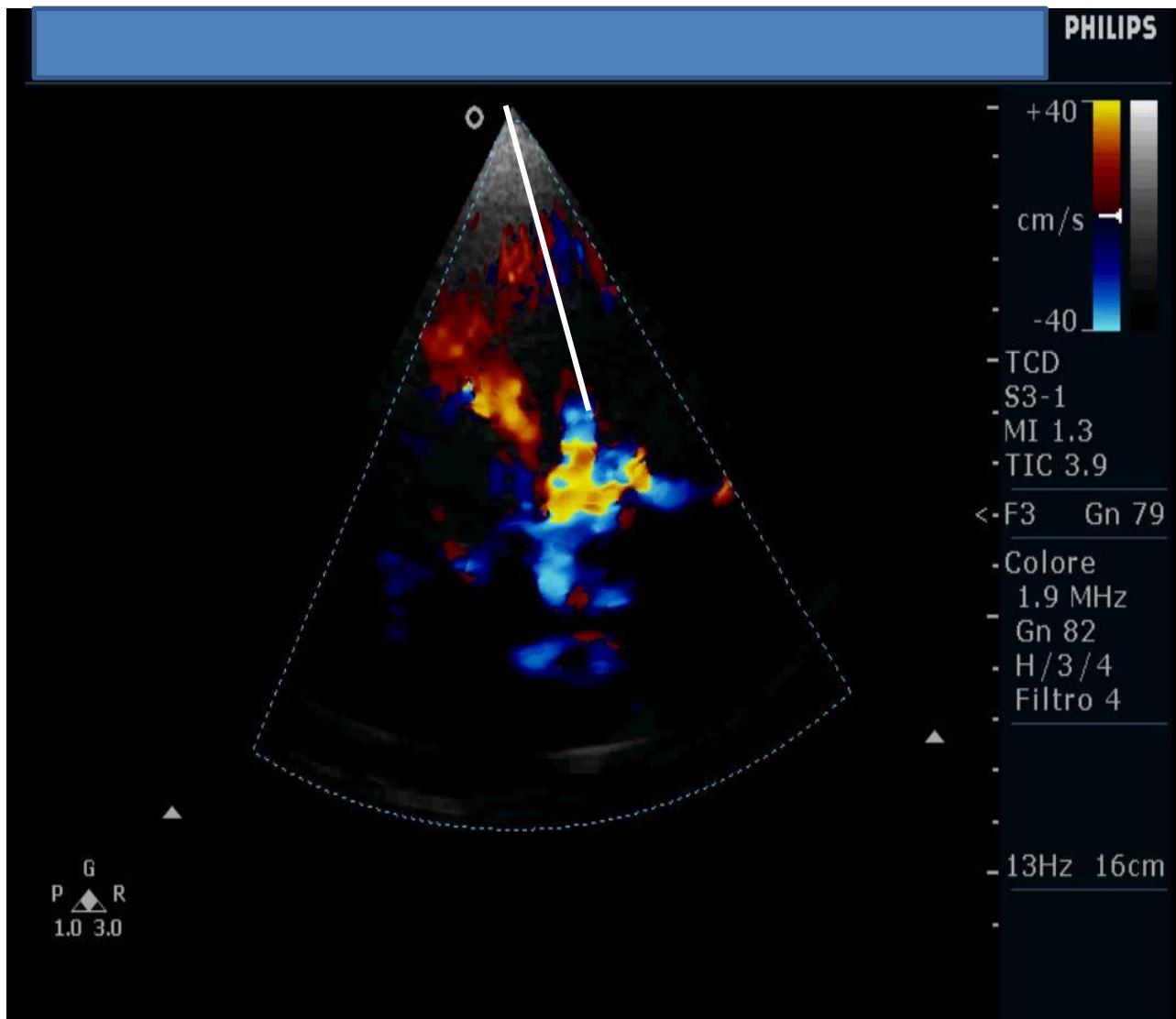




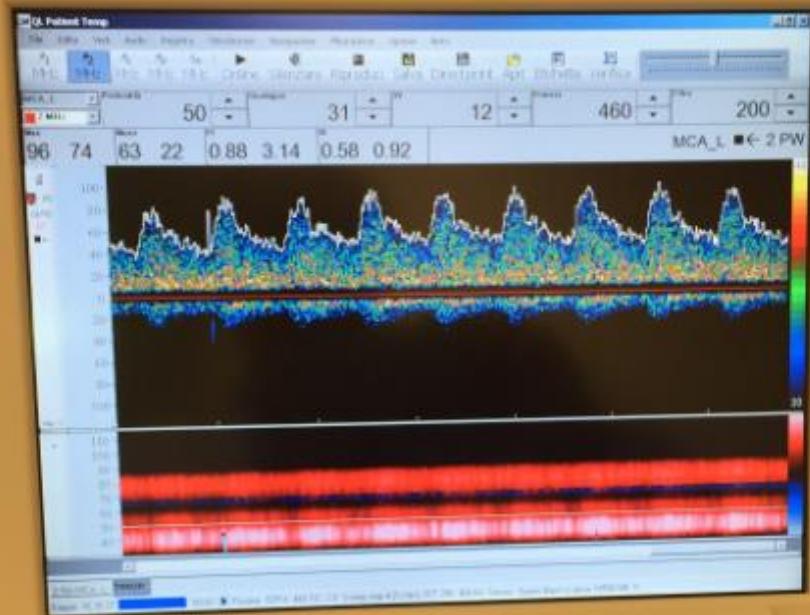
# Occlusione prossimale dell' arteria cerebrale



PHILIPS



G  
P ▲ R  
1.0 3.0

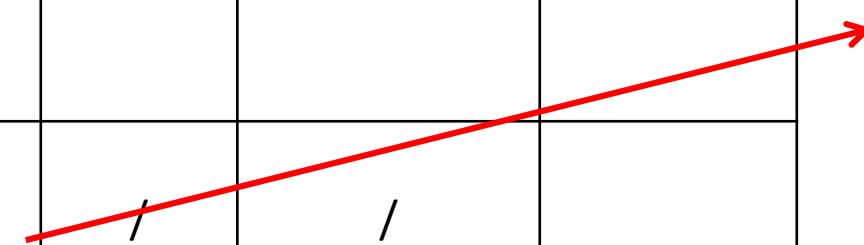




# Trattamento Stroke 2014

	Pz stroke	Pz trattati	NIH pretratt	Door to needle min	Esito mRS <u>&lt;=</u> 2
<b>BSL</b>	85	16 TS	7,3	43	
<b>NSGD</b>	280	28 TS 4 TS+TLR	11	82	
<b>OSMA</b>	297	28 TS 2 TS+TLR	9	60	
<b>SMN</b>	158	14 TS 2 TS+TLR 2 TLR 2 TEA	10,9	85	62%
<b>totale</b>	820	86 TS 8 TS+TLR 2 TLR 2 TEA	/	/	

12%





**ATUL GAWANDE**

**CON CURA**

DIARIO DI UN MEDICO DECISO A FARE MEGLIO

EINAUDI

***[...] fare di ogni prestazione una scienza è un modo per salvare più vite di quante non possa salvarne la ricerca sul genoma, la terapia delle cellule staminali, il vaccino anticancro e le tante ricerche di laboratorio di cui abbiamo notizia [...]***