



# Acute stroke treatments for reperfusion in over-80 year-old patients



## The experience of the first year in our stroke unit

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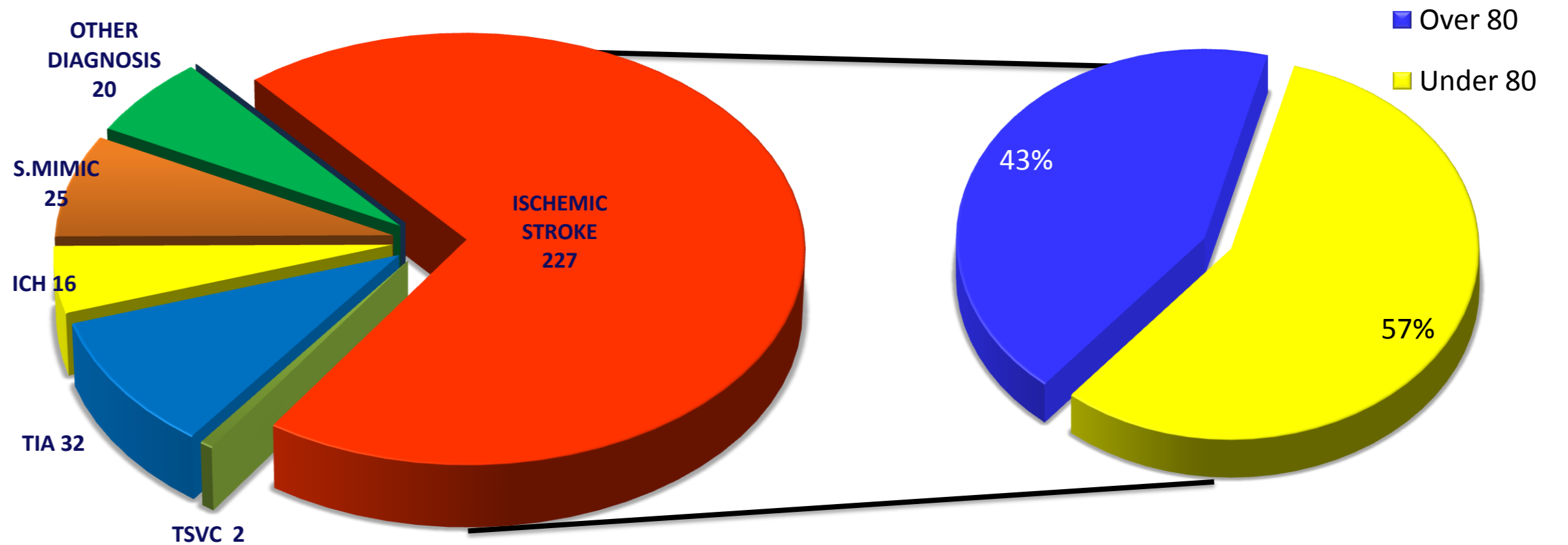
### BACKGROUND

Nowadays, i.v. thrombolysis and mechanic thrombectomy are the state of the art in acute ischemic stroke management. Safety and effectiveness of acute reperfusion treatments (ARTs) in over 80-year-old patients with ischemic stroke are still an unsolved issue. [1]

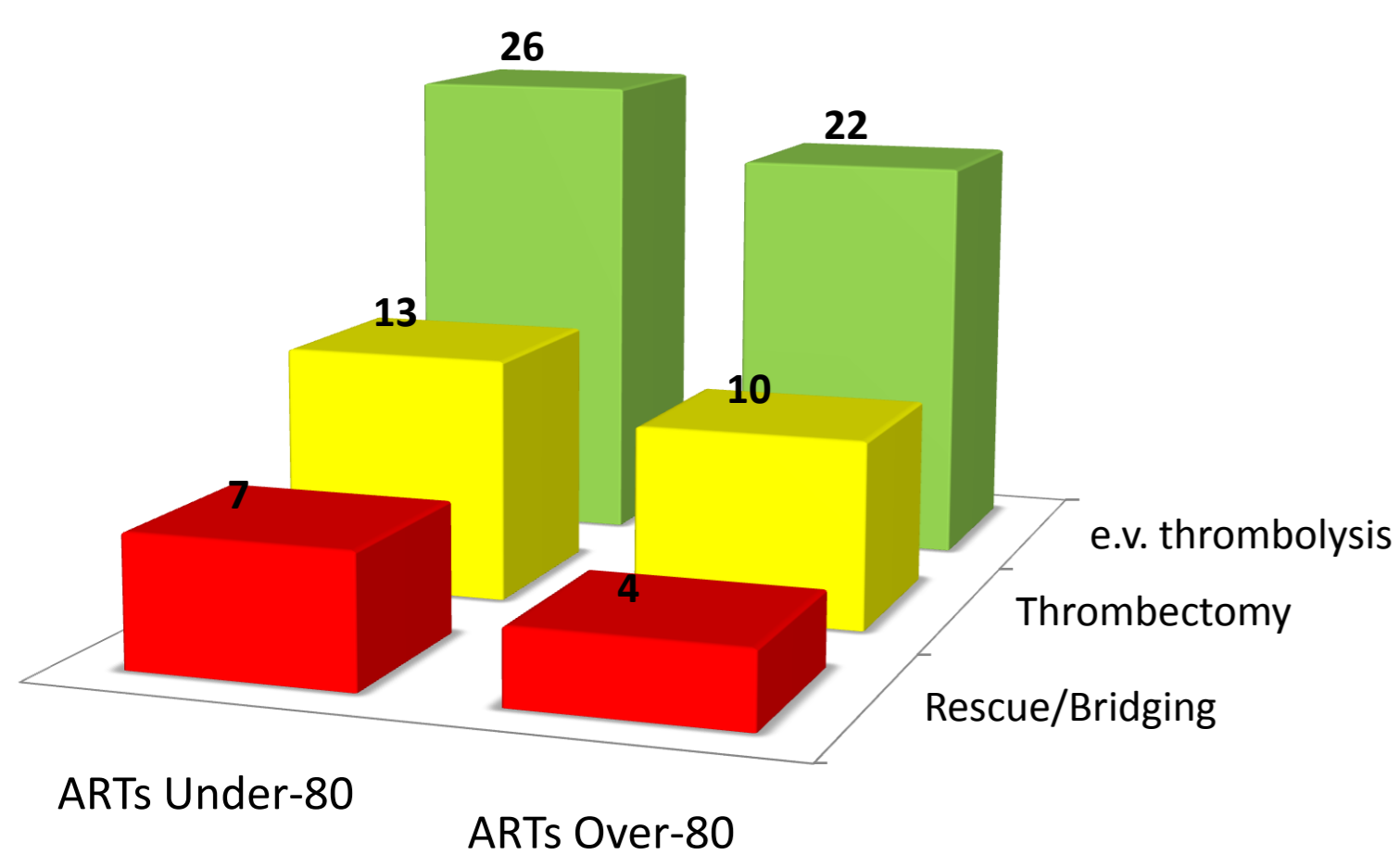
### MATERIALS AND METHODS

We report the experience of our Stroke Unit in the first year of activity. Since February 2014 we admitted 322 patients (157 F, 165 M; Mean age 71,68 ±15,25). Eighty-two of these (36 F, 46 M; Mean age 75,85±11,26) were accurately selected on the basis of clinical characteristics, advanced neuroimaging tools over the respect of SPREAD-ISO recommendations for e.v. thrombolysis with r-TPA and/or mechanic thrombectomy with Penumbra or Solitaire devices. Thirty-six patients were over-80 years-old (18 F, 18 M; Mean age 85,16±3,6).

- Twenty-two i.v. thrombolysis
- Ten mechanic thrombectomy, two with carotid stenting
- Four bridging/rescue therapy



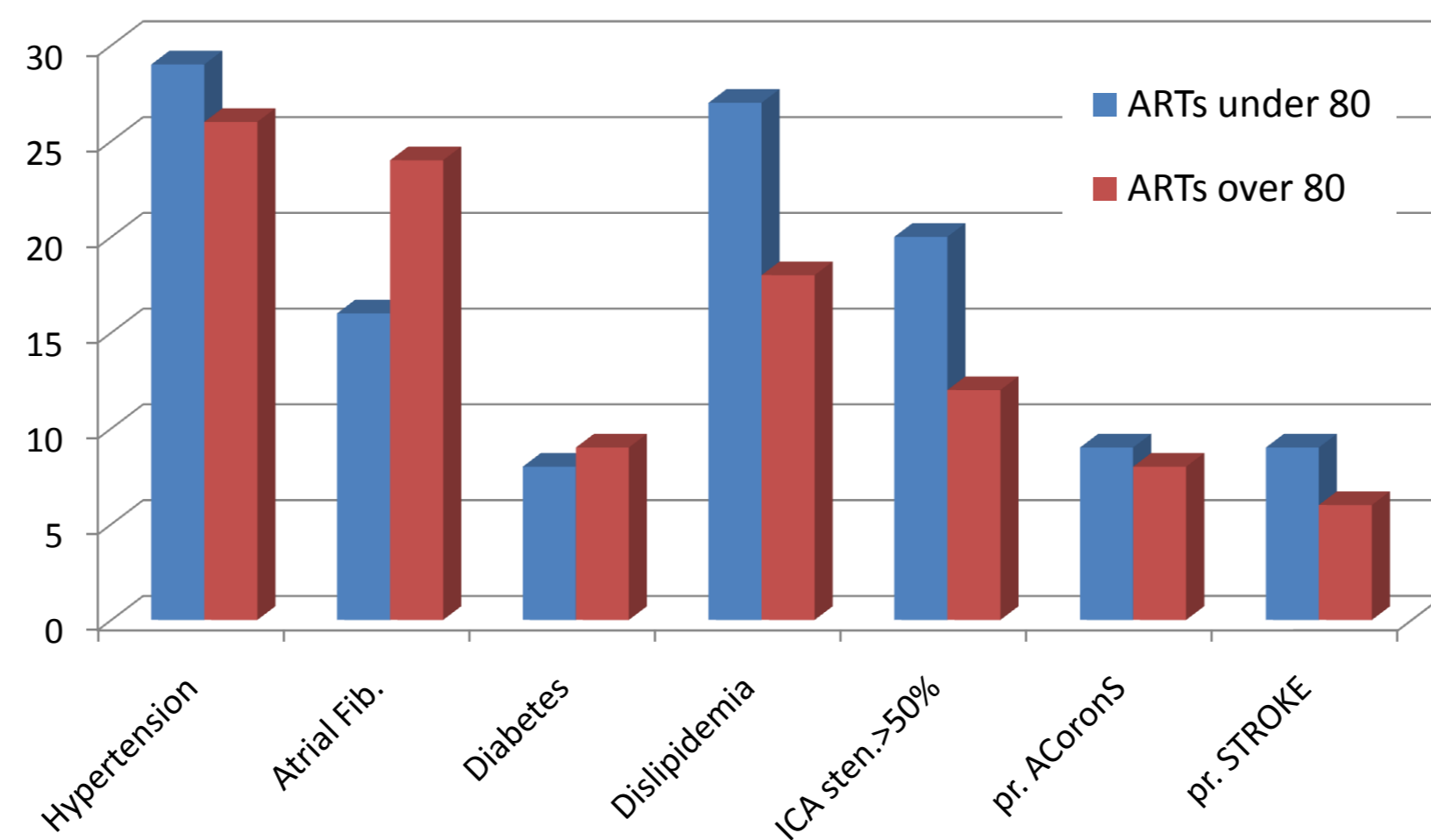
	Total (F; M)	Age Mean ± SD
ARTs Over-80	36 (18F; 18M)	85,1 ± 3,6
ARTs Under-80	46 (18F; 28M)	68,5 ± 9,7
No ARTs Over-80	30 (15F; 15M)	85,2 ± 3,9



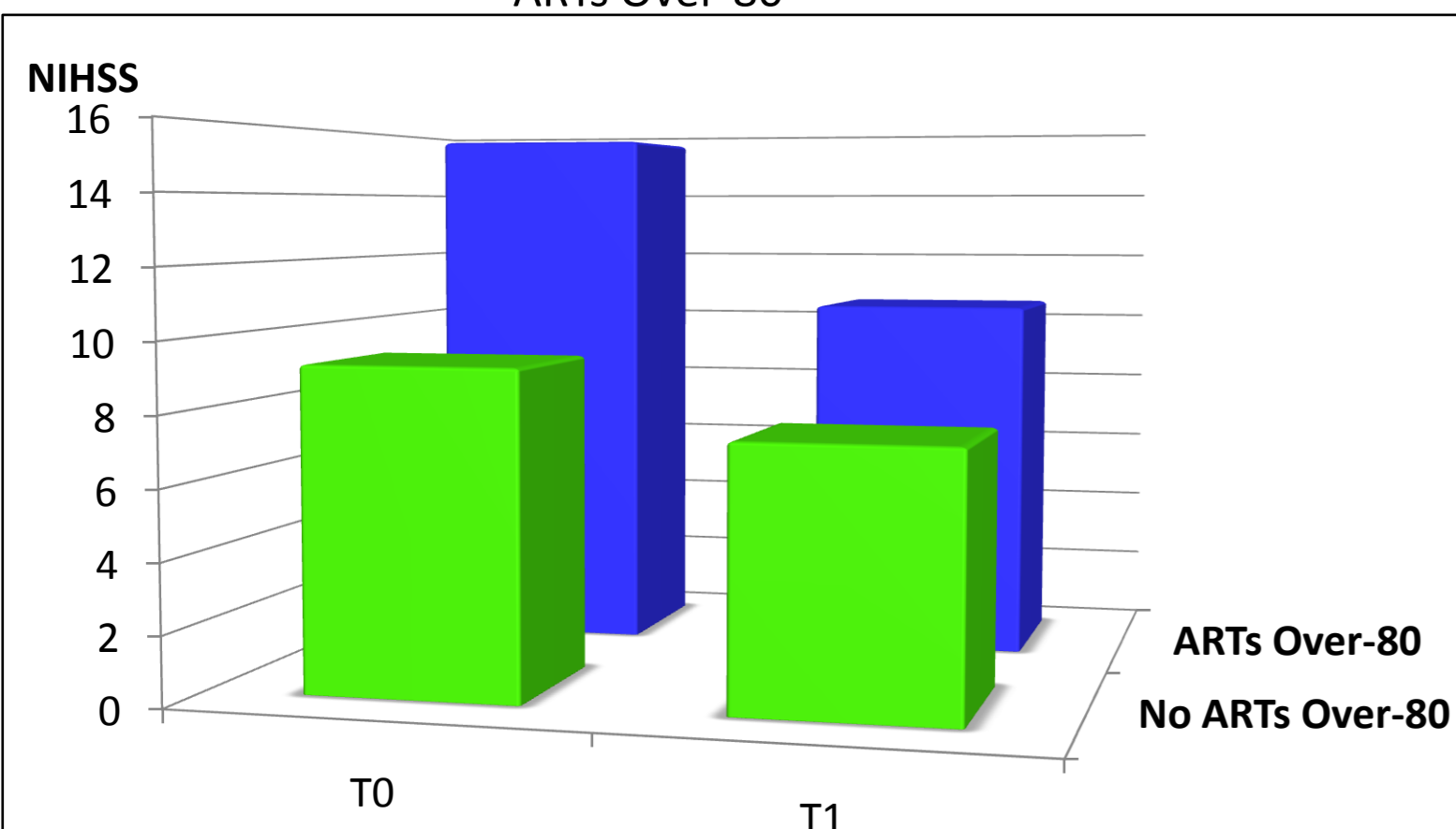
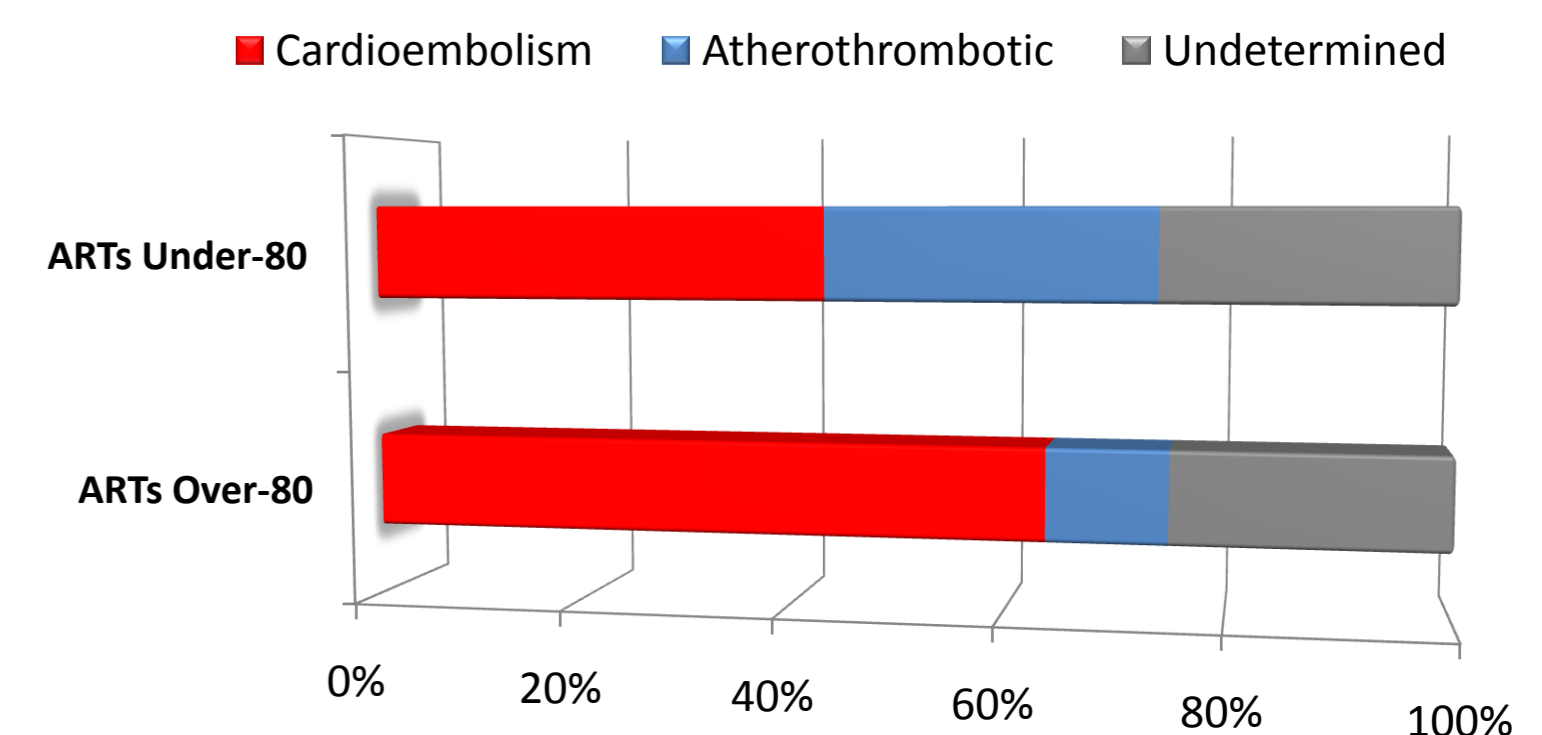
In Over-80 patients group, 18 of them had a very good outcome at the discharge with an improvement of at least 4 points of NIHSS, 13 patients had less or no benefits from procedures with an improvement of less than 4 points. One patient had a slight worsening of the hemiparesis. Global mortality 10,24%, ARTs mortality 8,53%, No ARTs mortality 10,83%.

### RESULTS

#### RISK FACTORS

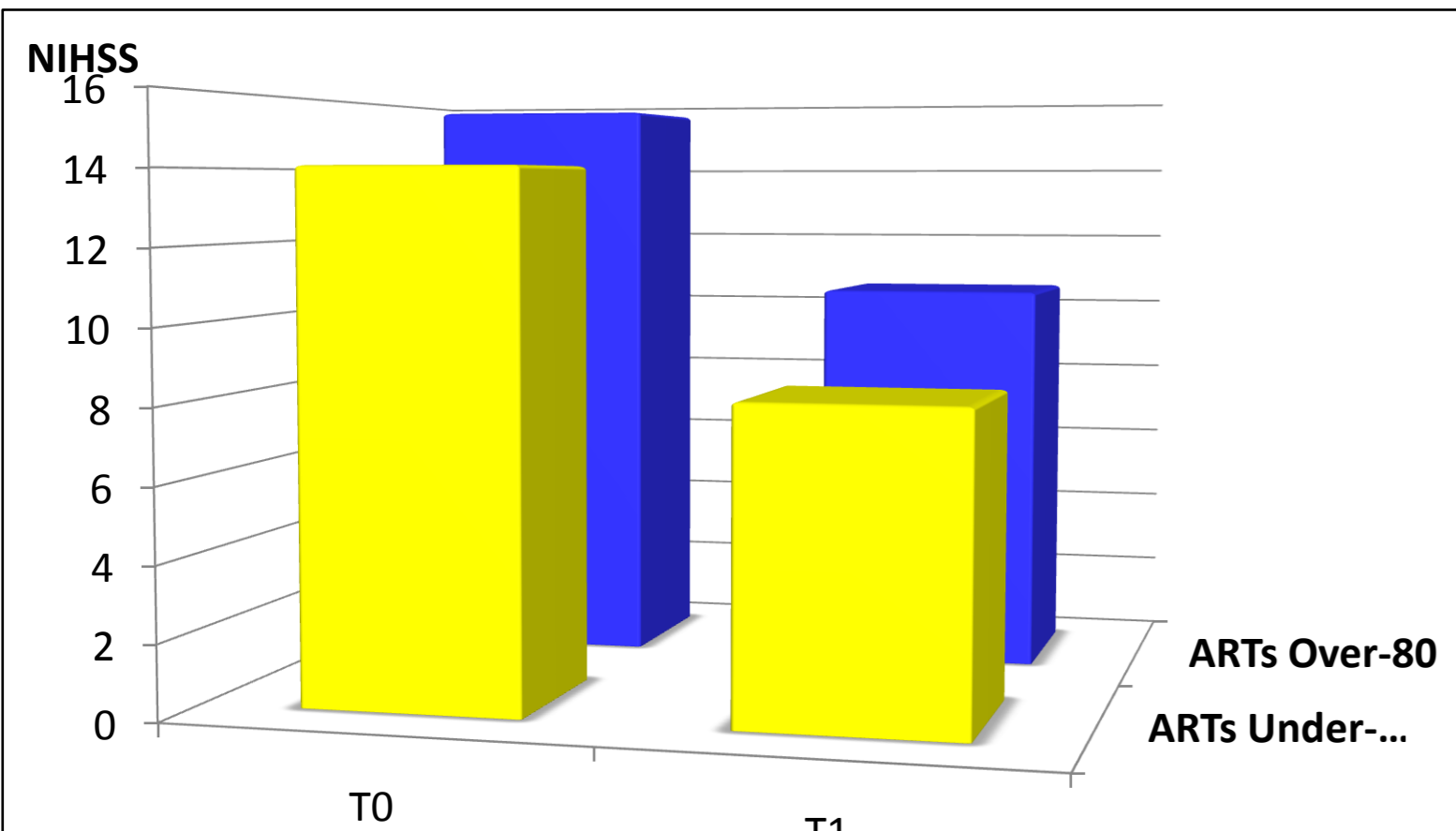


#### TOAST CLASSIFICATION



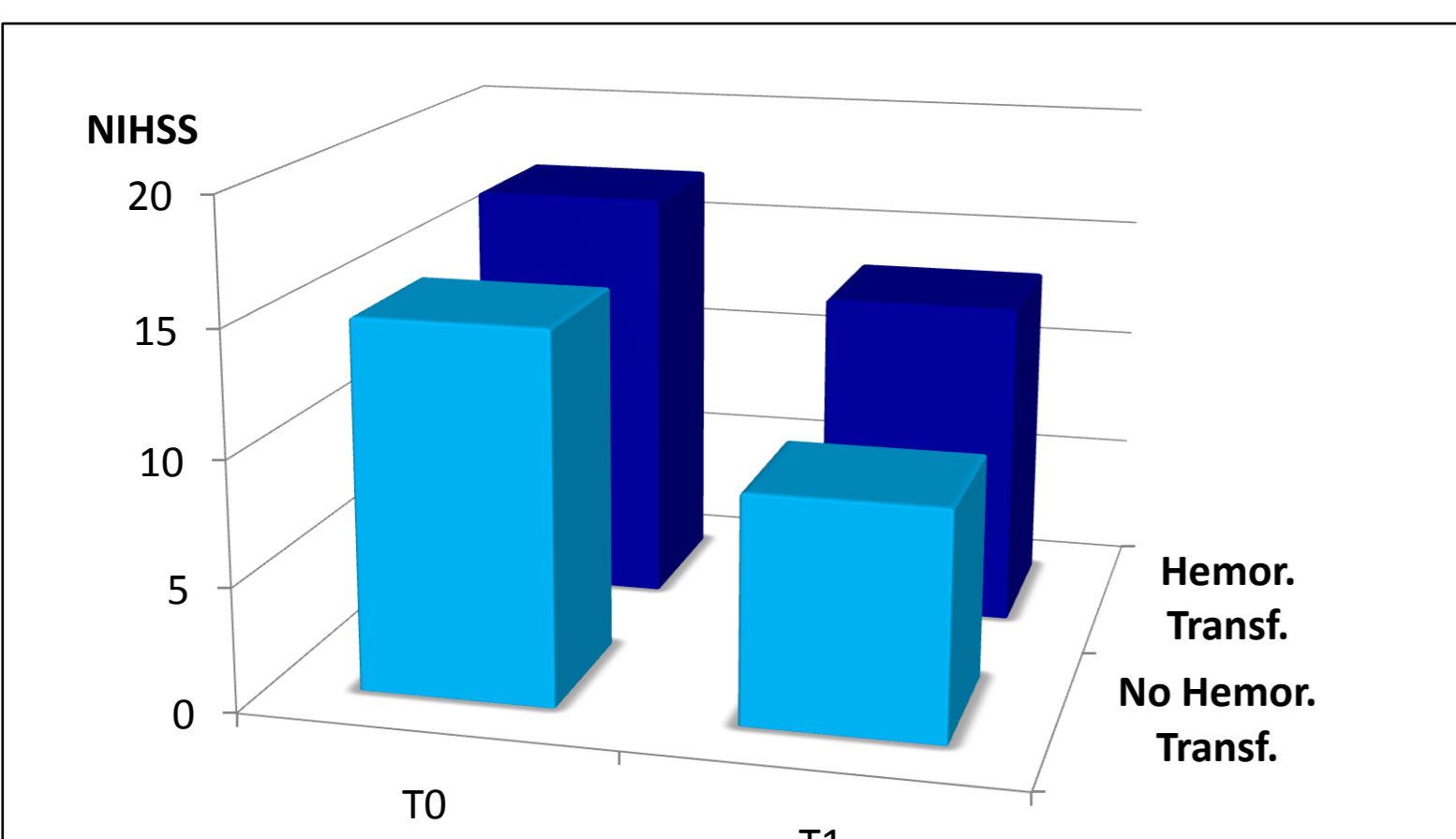
	NIHSS (T0) (Mean ± SD)	NIHSS (T1) (Mean ± SD)	P
ARTs Over-80	15,66 ± 5	10,56 ± 6,24	0,0001***
No ARTs Over-80	9,26 ± 7,02	7,41 ± 6,92	0,005**
P	0,0001***	0,07	

We compared NIHSS at T0 (admission) and at T1 (discharge) in **over-80-patients undergone to ARTs** with a control group of patients that **not undergone to ARTs matched for age**. We highlighted significant improvement in NIHSS scores in both groups with a **very significant improvement in ARTs group (T0-T1 p p < 0.001)**.



	NIHSS (T0) (Mean ± SD)	NIHSS (T1) (Mean ± SD)	P
ARTs Over-80	15,66 ± 5	10,56 ± 6,24	0,0001***
ARTs Under-80	14,07 ± 5,78	8,23 ± 6,62	0,0001***
P	0,22	0,13	

We compared NIHSS at T0 (admission) and at T1 (discharge) in **over-80-patients undergone to ARTs** with patients with **less than 80-year-old undergone to ARTs**. We found **very significant improvement** in intra-group analysis for both groups, and **no significant differences** were highlighted in **inter-group analysis**.



	NIHSS (T0) (Mean ± SD)	NIHSS (T1) (Mean ± SD)	P
ARTs Over-80 No Hemor. Transf.	14,90 ± 5,48	9,14 ± 6,40	0,0001***
ARTs Over-80 Hemor. Transf.	17,09 ± 3,73	13,27 ± 5,16	0,003**
P	0,25	0,07	

We divided **over-80-patients undergone to ARTs** in two groups, patients **with Hemorrhagic transformation** Vs patients **with NO Hemorrhagic transformation**, and compared NIHSS at T0 (admission) and at T1 (discharge). **Very significant differences** were highlighted in **inter-group analysis at T1**.

### CONCLUSIONS

In our experience over-80-patients have a significant improvement by ARTs. These patients had a very statistically significant improvement at discharge than over-80-patients that did not undergo to ARTs. In addition in over-80-patients the ARTs are effective like younger patients. In our study, the ARTs for reperfusion in acute ischemic stroke are safe and effectiveness choices, obviously in fine selected over-80 year-old patients.

### REFERENCE

[1] Lindley RI, Wardlaw JM, Sandercock PA. Thrombolysis in elderly people. Observational data insufficient to change treatment. BMJ. (2011);342:d306.