Misjudgment of pre-morbid functional status adversely affects outcomes in stroke patients undergoing endovascular therapy for large vessels occlusion

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Background

Endovascular therapy (EVT) trials enrolled ischemic stroke patients according to pre-morbid functional status. This information is commonly lacking in real-world setting.

Aim

To explore whether misjudgment of pre-morbid functional status adversely affects functional outcome at 90 days

Methods

- Prospective data from the Dresden Neurovascular Center (**Figure 1**)
- Patients with anterior circulation stroke undergoing EVT for large vessel occlusion (01/2016-12/2017)
- Considering all information accumulated during hospital course, pre-morbid modified Rankin scale (mRS) was independently re-assessed and compared with pre-treatment assessments
- Misjudgment was defined as any difference in the mRS categories between first- and second-look assessments
- Multivariable model was built to adjust for confounding variables of unfavorable outcome (mRS 3-6) and death at 90-days

Figure 1: Saxony Telestroke-Network (SOS-NET)

Results

- We studied 209 patients: median age 75 years (IQR, 17), 46% men, median NIHSS 16 (7)
- Second-look assessment revealed 79 (38%) cases initially being misjudged by ≥ 1 category and 15 (7%) by ≥ 2 categories (**Figure 2**)
- None of the first-look mRS categories were retrospectively adjusted to a lower category
- Patients whose mRS were misjudged were older (79 [14] vs. 74 [17], $p < .001$), more severely affected (NIHSS 17 [7] vs. 16 [7], $p = .01$) and suffered more frequently from diabetes (44% vs. 24%, $p = .005$) and atrial fibrillation (73% vs. 48%, $p = .001$) than those with consistent mRS assessments
- Any misjudgment of pre-morbid mRS emerged as predictor of 90-days unfavorable outcome (OR=3.11; 95%CI 1.31-7.38, $p = .01$) and death (OR=2.21; 95%CI 1.09-4.52, $p = .029$)

Figure 2: Comparison between first-look und second-look mRS

Conclusion

Correct assessment of pre-morbid functional status seems decisive for selection of EVT candidates