FUTILE RECANALIZATION IN NONAGENARIANS UNDERGOING ENDOVASCULAR TREATMENT FOR ACUTE ISCHEMIC STROKE.

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Background

Futile recanalization, defined as lack of clinical benefit despite angiographic recanalization, is an important limitation of endovascular treatment for acute ischemic stroke (AIS). Data on this topic in nonagenarians, who are increasingly being admitted to our hospitals, is scarce.

Material and methods

Retrospective observational study with data collection from Belgian, Swiss, Canadian comprehensive stroke centers and Swedish National database (EVAS). All patients with AIS were eligible if aged ≥ 90 years and treated with EVT $\pm$ pre-treatment with intravenous thrombolysis (IVT). Data on recanalization (mTICI), functional outcome (mRS at 3 months) and clinical response (delta mRS) was collected. Near complete or complete recanalization (mTICI 2b-3) was observed in relation to functional outcome at 3 months and classified as "meaningful" (mRS 0-2) or "futile" (mRS 3-6) recanalization.

Results

- 112 nonagenarians (mean age 93.3 ± 2.5 y; 76.8% women).
- Combined data on mTICI, pre- and post-mRS was available in 58 patients.
- Successful recanalization (mTICI $\geq 2b$) was achieved in **75.9%**.
- Good functional outcome (mRS ≤ 2) was seen in **17.0%** and 3-months mortality was **60.3%**.
- Clinical response, measured by delta mRS, was better in the group with successful compared to unsuccessful recanalization [2.8 ± 1.6 vs. 3.9 ± 1.2 (mean $\pm$ SD)].
- Nonetheless, meaningful recanalization was low (**18.2%**), especially **with respect to 75% of patients having a pre-stroke mRS ≤ 2** .

Independent predictors of futile recanalization will be identified through multivariate analysis.

Conclusion

A substantial proportion of nonagenarians shows futile recanalization in EVT for AIS. Treatment decisions should be made on case-by-case evaluation, keeping in mind limited chances of favorable outcome and high risk of mortality.