

Excess Mortality in Stroke Patients Aged 80+ Years Receiving Acute Endovascular Therapy, Eastern Denmark 2017-2019



Nicolaj Grønbaek Laugesen¹, Klaus Hansen^{1,2}, Trine Stavngaard³, Joan Højgaard¹, Thomas Truelsen^{1,2}

¹ Stroke Center Rigshospitalet, Department of Neurology, Rigshospitalet, Copenhagen, Denmark

² Faculty of Health Sciences, University of Copenhagen, Denmark

³ Neurovascular Unit, Department of Radiology, Rigshospitalet, Copenhagen, Denmark

Objectives

To assess the outcome and predictors of good outcome in patients aged 80+ years with acute ischemic stroke with large vessel occlusion (AIS-LVO) who receive acute endovascular recanalization treatment (aERT) based on real-life-data (RLD).

Methods

Prospective, observational cohort study of all patients undergoing arterial puncture for aERT in Eastern Denmark (2018 census 2.6 million). Patients were enrolled from January 1st, 2017 to December 31st, 2019. Outcome was assessed using the modified Rankin Scale (mRS) at 3 months. Predictors of an unfavorable outcome (mRS 3-6) in patients aged 80+ years were analyzed using multivariate logistic regression analyses confined to patients with pre-stroke mRS 0-2 adjusting for baseline National Institute of Health Stroke Scale (NIHSS), Alberta Stroke Programme Early CT (ASPECT) score and collateral status, age, sex, treatment with thrombolysis, and co-morbidity status (diabetes, atrial fibrillation, ischemic heart disease, hypertension, previous stroke, peripheral arterial disease).

Results & Discussion

A total of 714 AIS-LVO patients were treated with aERT of which 176 (24.7%) were aged 80+ years. At 3 months mRS 0-2 was observed in 269 (50%) <80 years and in 61 (34.7%) in patients aged 80+ years, $P=0.001$, whereas mortality was 17.8 % in patients aged <80 years and 36.4 % in patients aged 80+ years, $P<0.001$. In multivariate analyses a significantly increased risk of unfavorable outcome was observed with decreasing ASPECT score, Odds Ratio (OR) =1.74 (95%CI: 1.4-2.64), increasing NIHSS, OR=1.09 (95%CI: 1.01-1.18), and increasing age, OR=1.14 (95%CI: 1.02-1.29). All patients aged 80+ years with ASPECT <6 had unfavorable mRS at 3-months.

Conclusions

In this large study based on RLD mortality at 3-months was significantly higher in patients with AIS-LVO treated with aERT who were 80+ years compared with patients <80 years. In multivariate analyses ASPECT score, NIHSS, and increasing age were significant predictors of unfavorable outcome but not sex, collateral score, comorbidity, or treatment with thrombolysis.