

The **Abstract** must outline original research and has to be written in 1x A4 size maximum

Title Long-term mortality and thrombolysis therapy after a first acute ischemic stroke: gender differences. Ebrictus II Study.

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Rationale A number of large trials have confirmed the benefits of thrombolysis in acute stroke, but there are gender differences in stroke.

Methods & Results prospective cohort study containing 1339 incident strokes (614 in women) from 01/04/2006 to 31/12/2013. Statistical approaches for analyzing survival outcomes and their relation with thrombolysis therapy. Men were significantly younger than women (72.3±11.9 versus 76.0±11.7 years) and women had significantly higher NIH score than men (6.6±6.5 versus 8.3±7.4). The survival probability was 0.49 (CI95% 0.65-0.72) 5 years after stroke. The male/female incidence ratio (IR) was 1.004 (CI95% 0.860-1.173).

We observed 98 (8.6%) patients (48 in women) received thrombolysis, significantly younger than those without thrombolysis (68.8±12 versus 74.0±12.1 years). The average lifetime was higher (p <0.001) and the stroke death rates were lower (p 0.003) in thrombolysis therapy group with IR 0.57 (CI95% 0.39-0.83); relative risk reduction (RRR) 39.8%; absolute risk reduction (ARR) 18% and number needed to treat (NNT) 5. The protective factors for mortality were: thrombolysis therapy (CI95% 0.37-0.80 p 0.002); Barthel≥60 score (CI95% 0.81-0.94 p 0.002), and the cardiovascular secondary prevention (adjusted relative risk 7). The person-time incidence rate for all was 8.5/100 person-year (CI95% 5.4-12.8); 4.2/100 person-year among women (CI95% 1.5-9.2); and 13.4/100 person-year (CI95% 7.8-21.5) among men. The male/female IR showed a significant increase (p 0.01) in the incidence of mortality in men IR 3.2 (CI95% 1.2-8.0).

Conclusion stroke death rates were lower in women after thrombolysis treatment and suggest significant benefit for women in this setting.

Clinical Relevance

It still remains to be determined whether there is true gender difference in response to thrombolysis treatment. Other possibilities include differences in secondary stroke prevention.