Letter by Scheitz et al Regarding Article, “Intravenous Thrombolysis in Nonagenarians With Ischemic Stroke”

To the Editor:

We read with interest the recent article by Sarikaya et al that reported on the Swiss experience of intravenous thrombolysis (IVT) in very elderly stroke patients.1 A higher incidence of symptomatic intracranial hemorrhage (sICH) was detected in nonagenarians compared with octogenarians. The authors speculated that this might contribute to the high rate of unfavorable outcome and mortality in nonagenarians observed in their study and by others.2,3

The reported results encouraged us to analyze our own monocentric, prospectively collected data on patients treated with IVT at a university hospital in southwest Berlin with a large population of elderly people. In a 3-year period, we administered IVT to 163 patients age ≥80 years, including 25 patients age ≥90 years. Although nonagenarians had a higher stroke severity on admission (median National Institutes of Health Stroke Scale, 18 versus 11; P<0.01), no sICH occurred (0% versus 5.1%; P=0.60) and there was no statistically significant difference regarding any ICH compared with octogenarians (12.0% versus 18.8%; P=0.57).

This is in accordance with the recently published analysis of the SITS database, in which no independent association between sICH and age could be found, although the number of patients age >90 years was too small to draw final conclusions regarding this age group.2 In addition, a Canadian observational register study did not show age older than 90 years to be a predictor of sICH.3

In addition, Sarikaya et al found age older than 90 years to be a predictor of mortality, which is expected in this age group considering the high stroke fatality regardless of thrombolytic therapy.4 In our cohort, 3-month mortality in nonagenarians was 56% and similar to reported mortality rates by Sarikaya et al, in the SITS register and in CASES; this indicates the obvious natural history in this age group.1,2,3

As higher age has consistently shown to be a predictor of poor outcome in stroke (including mortality), higher complication rates in elderly compared with younger patients should not be overestimated. A recent comparison of patients who received IVT (from the SITS-ISTR Registry) and those without thrombolytic treatment (from the VISTA database) suggested a beneficial effect of thrombolysis consistent in all age groups >30 years up to age >90 years, although confidence intervals were wide in the relatively small subgroup of patients age >90 years.5

When considering possible risks and benefits of IVT in the elderly, we should also keep in mind the reduced capabilities of neuronal restoration in this patient group. Lost brain tissue (by withholding IVT) may be even more detrimental for functional outcome than it is in younger subjects.

In summary, in accordance with Sarikaya et al, we found a higher mortality in nonagenarians, but we did not observe an increased rate of sICH in nonagenarians compared with octogenarians treated with IVT in our center. With the currently available evidence, we do not think that IVT should be withheld from very elderly patients when carefully selected and informed about potential risks and current off-label use. Randomized trials (ie, IST-3, TESPI) will hopefully give conclusive insights into safety and efficacy of IVT in octogenarians or nonagenarians.

Disclosures

None.

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