

The NEW ENGLAND JOURNAL of MEDICINE

RESEARCH SUMMARY

Endovascular Therapy for Acute Stroke with a Large Ischemic Region

Yoshimura S et al. DOI: 10.1056/NEJMoa2118191

[April 7, 2022](#)

Background:

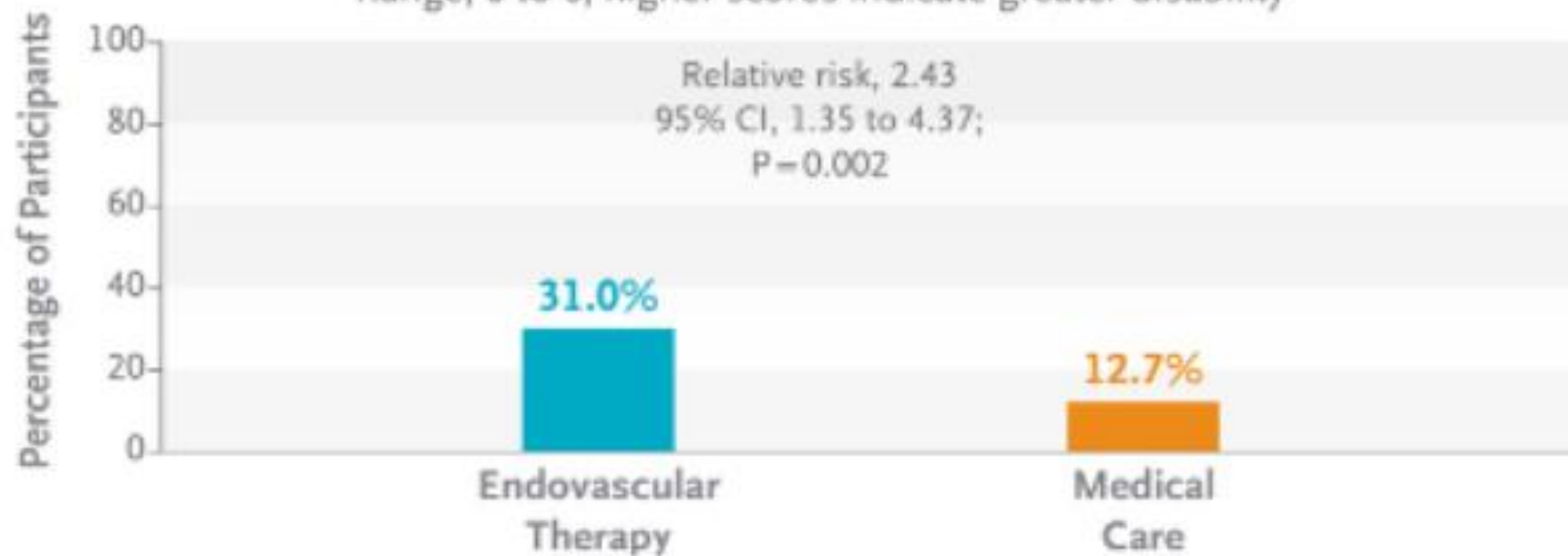
Although endovascular therapy is standard for ischemic stroke caused by large-vessel occlusion, it is not typically used in patients with a large ischemic region because of a lack of data from randomized trials and concern about the risk of hemorrhage with reperfusion

Methods:

We conducted a multicenter, open-label, randomized clinical trial in Japan involving patients with occlusion of large cerebral vessels and sizable strokes on imaging. Patients were randomly assigned to receive endovascular therapy with medical care or medical care alone within 6 hours after they were last known to be well or within 24 hours if there was no early change on fluid-attenuated inversion recovery images. Alteplase (0.6 mg per kilogram of body weight) was used when appropriate in both groups. The primary outcome was a modified Rankin scale score of 0 to 3 (on a scale from 0 to 6, with higher scores indicating greater disability) at 90 days. Secondary outcomes included a shift across the range of modified Rankin scale scores toward a better outcome at 90 days and an improvement of at least 8 points in the (NIHSS) score at 48 hours.

90-day Modified Rankin Scale Score of 0 to 3

Range, 0 to 6; higher scores indicate greater disability



RESULTS

A total of 203 patients underwent randomization; 101 patients were assigned to the endovascular-therapy group and 102 to the medical-care group. Approximately 27% of patients in each group received alteplase. The percentage of patients with a modified Rankin scale score of 0 to 3 at 90 days was 31.0% in the endovascular-therapy group and 12.7% in the medical-care group. The ordinal shift across the range of modified Rankin scale scores generally favored endovascular therapy. An improvement of at least 8 points on the NIHSS score at 48 hours was observed in 31.0% of the patients in the endovascular-therapy group and 8.8% of those in the medical-care group, and any intracranial hemorrhage occurred in 58.0% and 31.4%.

Modified Rankin
Scale Scores



0



1



2



3



4



5



6

Endovascular
Therapy — no. (%)

2 (2.0)

3 (3.0)

9 (9.0)

17 (17.0)

33 (33.0)

18 (18.0)

18 (18.0)

Medical Care
— no. (%)

0

3 (2.9)

5 (4.9)

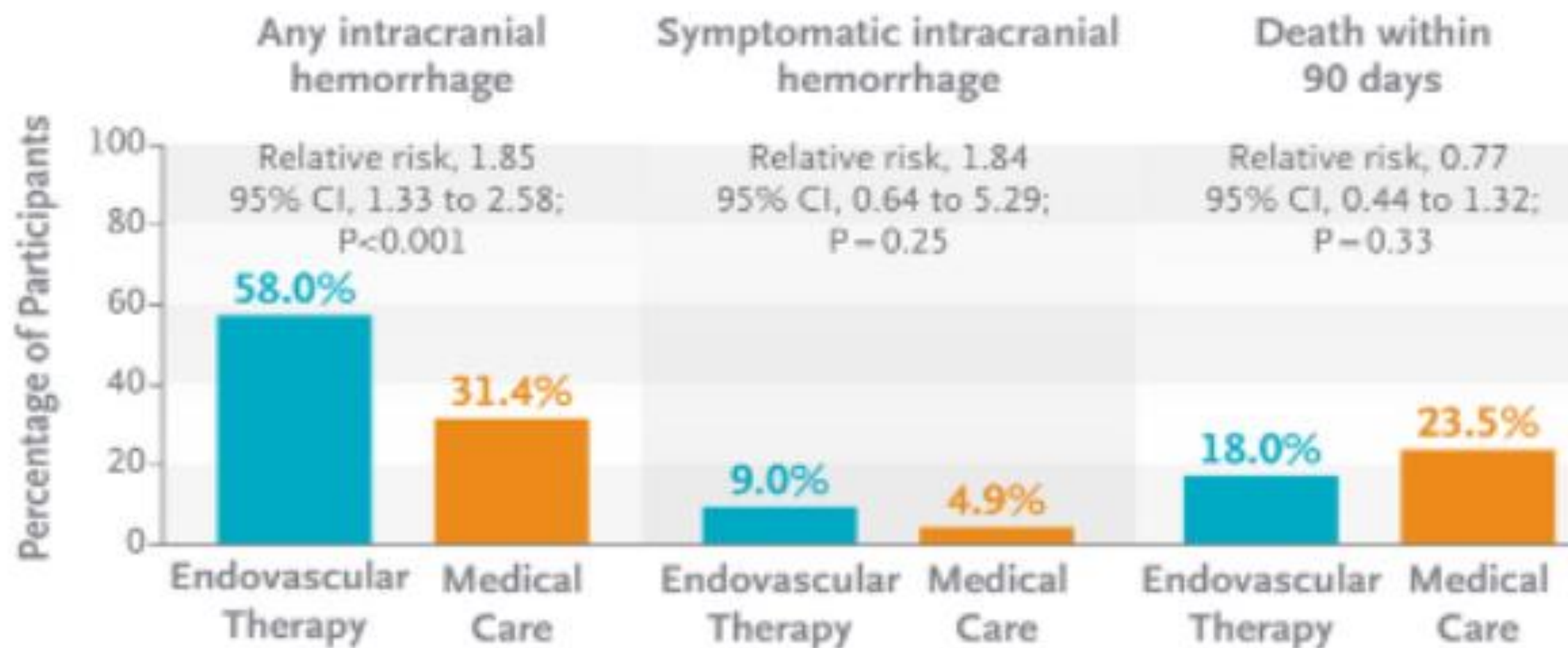
5 (4.9)

25 (24.5)

40 (39.2)

24 (23.5)

Safety Outcomes



CONCLUSIONS

In a trial conducted in Japan, patients with large cerebral infarctions had better functional outcomes with endovascular therapy than with medical care alone but had more intracranial hemorrhages.