Gangliosides for Acute Ischemic Stroke

Livia Candelise, MD; Alfonso Ciccone, MD

Background
Gangliosides may have a protective effect on the central and peripheral nervous systems.

Objectives
The objective of this review was to assess the effect of exogenous gangliosides in acute ischemic stroke.

Search Strategy
We searched the Cochrane Stroke Group trials register (last searched May 2001) and contacted drug companies and main investigators of included trials.

Selection Criteria
Randomized trials of gangliosides compared with placebo or standard treatment in people with definite or presumed ischemic stroke. Trials were included if people were randomized within 15 days of symptom onset and if mortality data were available.

Data Collection and Analysis
One reviewer applied the inclusion criteria. Two reviewers independently extracted the data. Trial quality was assessed.

Main Results
Twelve trials involving 2265 people were included (Figure). All the trials tested purified monosialoganglioside GM1. Only 3 trials described the randomization procedure. Follow-up was between 15 and 180 days. Death at the end of follow-up showed no significant difference (odds ratio [OR] 0.91, 95% CI 0.73 to 1.13). There was no difference shown between early (within 48 hours) and delayed treatment. For disability, 3 trials did not show any improvement in Barthel Index score with gangliosides (weighted mean difference 2.1; 95% CI −4.8 to 8.9). In 2 trials, 8 patients experienced adverse effects that led to discontinuation of ganglioside treatment, 7 had skin reactions, and 1 developed Guillain-Barré syndrome.

Reviewers’ Conclusions
There is not enough evidence to conclude that gangliosides are beneficial in acute stroke. Caution is warranted because of reports of sporadic cases of Guillain-Barré syndrome after ganglioside therapy.

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