Mailuoning for Acute Ischemic Stroke

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Mailuoning, a type of Chinese traditional medicine, is widely used in the treatment of acute ischemic stroke in China, although the adequacy of randomized evidence for its efficacy and safety is unknown.

Objectives
The objective of this review was to determine the efficacy and safety of mailuoning in the treatment of patients with acute ischemic stroke. The primary objective was to determine whether mailuoning improves functional outcome in patients with acute ischemic stroke. The secondary objective was to assess the adverse events, improvement of neurological deficit and quality of life when using mailuoning for patients with acute ischemic stroke.

Search Strategy
We searched the Cochrane Stroke Group Trials Register (January 2008), the Chinese Stroke Trials Register (December 2007), the Trials Register of the Cochrane Complementary Medicine Field (December 2007), the Cochrane Central

![Figure](https://example.com/figure.png)

**Figure.** Effect of mailuoning compared with controls on improvement with neurological deficit at the end of treatment: proportion of patients with improvement of neurological deficit at the end of treatment.
Register of Controlled Trials (CENTRAL; The Cochrane Library Issue 4, 2007), MEDLINE (1966 to December 2007), EMBASE (1980 to January 2008), AMED (1985 to December 2007), the China Biological Medicine Database (CBM-disc 1979 to December 2007), and the Chinese National Knowledge Infrastructure (1979 to December 2007). We searched clinical trials and research registers, hand-searched 10 Chinese journals, including relevant conference proceedings, scanned reference lists, and contacted the pharmaceutical company manufacturing mailuoning. We also attempted to contact trial authors to obtain further data.

**Selection Criteria**
Selection criteria consisted of randomized controlled trials comparing mailuoning with placebo or no mailuoning in patients with acute ischemic stroke. Randomized controlled trials on mailuoning plus other treatment compared with the other treatment alone is also eligible.

**Data Collection and Analysis**
Two review authors independently selected trials for inclusion, assessed trial quality, and extracted the data.

**Main Results**
Fifteen trials involving 1280 participants were included. The methodological quality of the included trials was poor. Only 2 trials had allocated participants by random number. The other 13 trials did not report method of randomization and method of treatment allocation. The follow-up period was short (14 to 38 days) in most included studies. Numbers of deaths at the end of follow-up of at least 3 months were not reported in all the included trials. Only 1 trial reported dependency in activities of daily life; the index was not different between the treatment group and the control group (mean difference [fixed] −5.31; 95% CI −19.11 to 8.49). From 6 trials that reported adverse events, 5 events occurred in 2 trials: 3 participants in the treatment groups presented with drowsiness, palpitations, and chest tightness and 2 patients with drowsiness in the control group. When analyzing these trials together, mailuoning was associated with a significant increase in the number of patients with improved neurological deficit (risk ratio 0.30; 95% CI 0.22 to 0.42, see the Figure). Of note, 1 placebo-controlled trial (55 participants), assessed to be of good methodological quality, failed to show an improvement of neurological deficit at the end of 3 months follow-up (MD 0.69; 95% CI −3.42 to 4.80). Quality of life, assessed in 1 trial, did not show significant improvement.

**Implications for Practice**
This review suggests that mailuoning may improve neurological impairment after acute ischemic stroke. However, the quality of included trials in this review was generally poor and did not provide sufficient evidence to support or refute routine use of mailuoning for reducing death or disability in the treatment of patients with acute ischemic stroke.

**Implications for Research**
High-quality, large-scale randomized trials are needed to confirm or refute the results of this review. Future trials should overcome the limitations of the trials presented in this review; in particular, they should ensure adequate concealment of allocation, blinding of outcome assessors, and use functional outcome as the primary outcome measured at long-term follow-up.

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**Disclosures**
None.

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