Acanthopanax for Acute Ischemic Stroke

Weizheng Li, MD; Ming Liu, MD, PhD; Shejun Feng, MD; Bo Wu, MD, PhD; Shihong Zhang, MD; Weimin Yang, MD; Guan Jian Liu, MD

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acute ischemic stroke is a common cause of death and disability. Acanthopanax is widely used in the treatment of acute ischemic stroke in China, and a number of studies on Acanthopanax for acute ischemic stroke were published in Chinese journals. However, whether there is adequate randomized evidence for its efficacy is unclear.

Objectives
The objective of this review was to assess the efficacy and safety of Acanthopanax in patients with acute ischemic stroke.

Search Strategy
We searched the Cochrane Stroke Group Trials Register (last searched January 2008), the Chinese Stroke Trials Register (last searched March 2008), and the Trials Register of the Cochrane Complementary Medicine Field (last searched January 2008). In addition, we searched the Cochrane Central Register of Controlled Trials (CENTRAL; The Cochrane Library Issue 1, 2008), MEDLINE (1966 to March 2008), EMBASE (1980 to March 2008), CINAHL (1982 to March 2008), AMED (1985 to March 2008), and 9 Chinese databases, including the China Biological Medicine Database (CBM-disc; 1979 to March 2008). We hand-searched 3 Chinese journals and searched reference lists, relevant clinical trial registers, and research databases. In an attempt to identify further published, unpublished, and ongoing trials, we contacted a pharmaceutical company, researchers, and study authors.

Selection Criteria
We included randomized controlled trials comparing Acanthopanax with placebo or open control (no placebo) in patients with acute ischemic stroke.

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

Main Results
We included 13 trials (962 participants). There were many methodological problems in the design and performance of all the trials. Only 1 trial reported the use of random number tables to divide the treatment and control groups; the remaining 12 trials and all included trials did not report the method of randomization and blinding. The period of follow-up in all included trials ranged from 10 to 30 days. None of the trials reported dropouts or intention-to-treat analysis. None of the trials reported the primary outcome death or dependency during the follow-up period. The outcome measure in all included trials was the improvement of neurological deficit after treatment; Acanthopanax was associated with a significant increase in the number of participants whose neurological impairment improved (risk ratio, 1.22; 95% confidence interval, 1.15 to 1.29). Two trials reported adverse events, including fever, epistaxis, and gingival bleeding; 5 trials reported no adverse events. Assessments of quality of life were not undertaken in all included trials (Figure).

Implications for Practice
The risk of bias in all included trials was high, and hence the data were not adequate to draw reliable conclusions about the efficacy of Acanthopanax in acute ischemic stroke. The data in this review do not support routine use of Acanthopanax for treatment of acute ischemic stroke.

Implications for Research
This review suggests that Acanthopanax might improve neurological impairment in the treatment of acute ischemic stroke. However, because the observed effects may have been
due to bias rather than a true biological effect, further randomized controlled studies are justified to assess the efficacy and safety of Acanthopanax for patients with acute ischemic stroke. The design and performance of future research should consider in particular the use of (1) appropriate methods of randomization to generate the allocation sequence; (2) adequate allocation concealment; (3) blinding of investigator, participants, and outcome assessors; (4) use of standard validated outcome measures measured at some months after randomization; (5) complete follow-up of all randomized participants; and (6) reporting of all deaths and adverse event, critically assessed by standardized monitoring or an effective self-report system.

### Table 1

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Acanthopanax</th>
<th>Control</th>
<th>Risk Ratio M-H</th>
<th>Risk Ratio Fixed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Events Total</td>
<td>Events Total</td>
<td>Weight 95% CI</td>
<td>Weight 95% CI</td>
</tr>
<tr>
<td>1.1.1 MESSS</td>
<td>33 36</td>
<td>25 34</td>
<td>7.1% 1.25 (1.00, 1.56)</td>
<td>10.5% 1.11 (0.95, 1.31)</td>
</tr>
<tr>
<td>He 1998</td>
<td>48 52</td>
<td>34 41</td>
<td>8.8% 1.34 (1.06, 1.70)</td>
<td>10.7% 1.05 (0.94, 1.18)</td>
</tr>
<tr>
<td>Peng 2006</td>
<td>36 37</td>
<td>22 25</td>
<td>7.2% 1.17 (0.95, 1.43)</td>
<td>11.3% 1.27 (1.07, 1.51)</td>
</tr>
<tr>
<td>Qiu 2001</td>
<td>28 30</td>
<td>24 30</td>
<td>6.6% 1.11 (0.95, 1.29)</td>
<td>6.9% 1.08 (0.93, 1.25)</td>
</tr>
<tr>
<td>Xiao 2007</td>
<td>36 37</td>
<td>22 25</td>
<td>7.2% 1.17 (0.95, 1.43)</td>
<td>11.3% 1.27 (1.07, 1.51)</td>
</tr>
<tr>
<td>Xu 2003</td>
<td>52 56</td>
<td>41 56</td>
<td>11.3% 1.27 (1.07, 1.51)</td>
<td>11.3% 1.27 (1.07, 1.51)</td>
</tr>
<tr>
<td>Yu 2002</td>
<td>27 28</td>
<td>25 28</td>
<td>6.9% 1.08 (0.93, 1.25)</td>
<td>6.9% 1.08 (0.93, 1.25)</td>
</tr>
<tr>
<td>Subtotal (95%) CI</td>
<td>332</td>
<td>307</td>
<td>69.2% 1.17 (1.10, 1.23)</td>
<td>69.2% 1.17 (1.10, 1.23)</td>
</tr>
<tr>
<td>Total events</td>
<td>308</td>
<td>242</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: $\chi^2 = 7.93, df = 7 (P = 0.34); I^2 = 12\%$

Test for overall effect: $Z = 4.86 (P < 0.00001)$

**Figure.** Effect of Acanthopanax compared with control on improvement of neurological deficit at the end of treatment.

### Acknowledgments

We thank Mrs Hazel Fraser for providing relevant trials from the Cochrane Stroke Group Trials Register and her willingness to answer all our questions related to the review and Mrs Brenda Thomas for her help with developing the search strategy and searching data for us.

### Disclosures

None.

**Keywords:** Acanthopanax / ischemic stroke / systematic review
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