Fibrinogen-depleting agents reduce fibrinogen in blood plasma, reduce blood viscosity and hence increase blood flow. This may help remove any occluding thrombus and reestablish blood flow to the affected area of the brain after an ischemic stroke. The risk of hemorrhage may be less than with thrombolytic agents.

**Objective**
The objective of this review was to assess the effect of fibrinogen-depleting agents in patients with acute ischemic stroke.

**Search Strategy**
We searched the Cochrane Stroke Group Trials Register (last searched May 2003). In addition, we searched the following electronic databases: EMBASE (1980 to October 2001), China Biological Medicine Database (CBM-disc, 1981 to December 2002), Chinese Stroke Trials Register (1996 to December 2002), and Index of Scientific and Technical Proceedings (Web of Science Proceedings, 1990 to October 2001). We hand searched relevant journals and contacted Chinese and Japanese researchers and drug companies.

**Selection Criteria**
Randomized and quasirandomized trials of fibrinogen-depleting agents started within 14 days of stroke onset, compared with control in patients with definite or possible ischemic stroke.

**Data Collection and Analysis**
Two reviewers independently applied the inclusion criteria when selecting trials and assessed trial quality and extracted data for each trial. Relative risk (RR) and absolute risk reduction were calculated using RevMan (Cochrane IMS). Heterogeneity between trial results was examined using a standard χ² test.

**Main Results**
Five trials involving 2926 patients were included. A further trial (European Stroke Treatment with Ancrod Trial [ESTAT]) has not yet been published in full. Four trials tested ancrod and 1 trial tested defibrase. Allocation concealment was adequate in 4 trials. Fibrinogen-depleting agents moderately reduced the proportion of patients who were dead or disabled at the end of follow-up (RR 0.90; 95% CI, 0.82 to 0.98; 2P=0.02). There was no statistically significant difference in deaths from all causes during the scheduled treatment period (RR 0.71; 95% CI, 0.78 to 1.24). There was a nonsignificant excess of symptomatic intracranial hemorrhages with treatment (RR 2.64; 95% CI, 0.96 to 7.30; 2P=0.06; Figure).

Implications for Practice
The data from the trials included in this review do not provide sufficiently reliable evidence to support the routine use of fibrinogen-depleting agents for the treatment of acute ischemic stroke.

Implications for Research
The ESTAT trial should publish its findings as soon as possible. Data on patients treated within 3 and 6 hours of stroke onset should be made available from all recent trials. Further trials should test simpler fixed-dose regimens if this therapy is to be used more widely.

Reviewers’ Conclusions
Fibrinogen-depleting agents are promising. However, more data, particularly ESTAT data, are needed before more reliable conclusions can be drawn.

Note: The full text of this review is available in the Cochrane Library (for subscribers: www.updatesoftware.com/Cochrane). The full article should be cited as: Liu M, Counsell C, Zhao XL. Fibrinogen-depleting agents for acute ischemic stroke (Cochrane Review). In: The Cochrane Library. Issue 3, 2004 Chichester: Update Software. © Cochrane Library, John Wiley & Sons Ltd.
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