Use of anticlotting drug more than three hours after stroke should be re-evaluated, say researchers

Evidence review suggests increased mortality with no clear benefit

Advice to use the anticlotting drug alteplase more than three hours after an acute stroke should be reevaluated, say researchers writing in The BMJ this week.

Alteplase is a tissue plasminogen activator (tPA) that helps to disperse blood clots in a process called thrombolysis.

Most major stroke guidelines support use of alteplase up to 4.5 hours after stroke onset, but Dr Brian Alper and colleagues believe that current guidance is based on uncertain evidence and they call for urgent reconsideration of the available data to guide policy decisions.

The UK regulator, the Medicines and Healthcare Regulatory Agency (MHRA), is planning to analyse all relevant sources of evidence and reassess the balance of benefits and risks for alteplase.

Dr Alper and his team examined the most comprehensive sources of evidence and advice that working clinicians are likely to turn to for guidance on whether to use alteplase after stroke.
These included American Heart Association and American Stroke Association guidelines, a 2014 Cochrane review, and a 2014 meta-analysis of individual patient trial data.

Each of these sources suggests that alteplase is more beneficial than harmful when given 3-4.5 hours after the onset of ischaemic stroke.

The researchers analysed the data supporting these conclusions and found inconsistent evidence on the effects of alteplase at 3-4.5 hours after stroke.

For example, some data support an increase in good functional outcome at three months, and others show a worse functional outcome at six months. As such, any single estimate of effect from currently available data is therefore likely to be unreliable, they write.

They say the key to resolving uncertainty about the benefits and harms of alteplase 3-4.5 hours after stroke “lies in publishing more of the underlying data forming the basis of the 2014 meta-analysis and reanalysing them transparently.”

They acknowledge this may not “settle” the issue, but conclude: “Unless and until there are data showing unequivocal benefits to outweigh known harms, we believe that there should not be any strong recommendation or encouragement for use of alteplase beyond three hours after stroke.”

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