

## Cost Savings from r-tPA Treatment



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Researchers from the University of Washington in Seattle (USA) reviewed the cost-effectiveness of using recombinant tissue-type plasminogen activator (r-tPA) to treat stroke. Their findings show that on average, each patient treated with r-tPA gained 0.39 quality-adjusted life years (QALYs) translating to a lifetime cost savings of about \$25,000 compared with untreated patients.

Results of the study have been published online in *Stroke*. The authors recommended the use of their updated cost analysis to inform future reimbursement policies.

### Decision Analytic Model

Denise M. Boudreau, PhD, and colleagues at the University of Washington devised a decision analytic model that incorporated data from recent trials, meta-analyses, stroke recurrence rates, current medical costs and mortality rates. The analysis was from a payer perspective in the United States with costs inflated to 2013 dollars. The study assumed direct costs only.

The last cost-effectiveness study on the use of r-tPA up to three hours from the onset of stroke symptoms happened more than 15 years ago. The 1998 study supported the use of the thrombolytic agent r-tPA from a cost perspective, with savings of about \$4,000 per person treated. Boudreau and his team aimed to revisit the topic using current data.

The research team's base case analysis showed lifetime medical costs of r-tPA administered between zero to three hours of symptom onset of acute ischemic stroke at \$287,400 compared with \$312,400 if r-tPA was not used. In probabilistic sensitivity analyses, the team noted, r-tPA treatment trumped no treatment virtually every time in simulations.

### Stroke Disability Cost Up 60% from 1998

"From a policy perspective, 39 years of QALYs would be gained, and over 2.5 million US dollars saved in medical costs for every 100 patients treated with r-tPA within 0 to 3 hours of AIS [acute ischemic stroke] symptom onset," according to the research team. Based on their calculation, the annual cost of stroke disability increased 60 percent from the 1998 analysis.

In addition, Boudreau et al. found that r-tPA is underused, despite guideline recommendations. They attributed this to the fact that hospitals lack the infrastructure and organisation to triage and treat patients within the target window.

While there are many effective approaches to facilitate rapid treatment, their implementation entails resources such as staff and equipment. Boudreau et al. said their findings could serve as evidence to alleviate that problem "by persuading policy makers to recalibrate diagnostic related group codes for stroke."

Source: CardiovascularBusiness.com  
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