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AUSTRALIAN HEALTH RESEARCH ALLIANCE

On the Road to Recovery: Mobile Stroke Treatment

What is the problem?

Currently, alteplase is the standard clot-dissolving therapy for ischemic stroke, which is an acute emergency caused by a partial or full blockage of arteries in the brain. However this treatment is only effective in 30-45% of patients. Importantly, treatment of ischemic stroke is more effective when given within 90 minutes of stroke onset. Means of treating patients earlier with more effective therapies are needed.

About this research translation project

Ischemic stroke is a major public health problem, for which effective and accessible drug therapies remain limited. Current management of acute ischemic stroke includes treatment with a solution called alteplase, which dissolves clots in a cerebral artery. The treatment effect of alteplase is much greater if given within 90 minutes of stroke onset. As a result, there has been a significant push to take stroke care to the patient in the form of the Mobile Stroke Unit (MSU). The MSU is the first designed as a CT-capable ambulance that allows assessment and treatment of stroke patients in the pre-hospital setting. In the proposed research project, we will undertake a clinical trail investigating the effectiveness of a new thrombolytic agent in the MSU, tenecteplase. Tenecteplase has been shown to be significantly more effective at improving stroke survivor's recovery and opening blocked blood vessels than alteplase in the hospital setting. However, it is unknow if earlier administration of tenecteplase is more effective than early administration of alteplase.

What will be the impact?

The tested agent, tenecteplase, is cheaper, easier to administer (no time-consuming infusions required) and more practical for an ambulance delivered therapy than the current standard of care, alteplase. If tenecteplase results in better clinical outcomes in addition to these practical advantages, there is significant scope for improved patient outcomes and cost savings.

Melbourne Academic Centre for Health

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