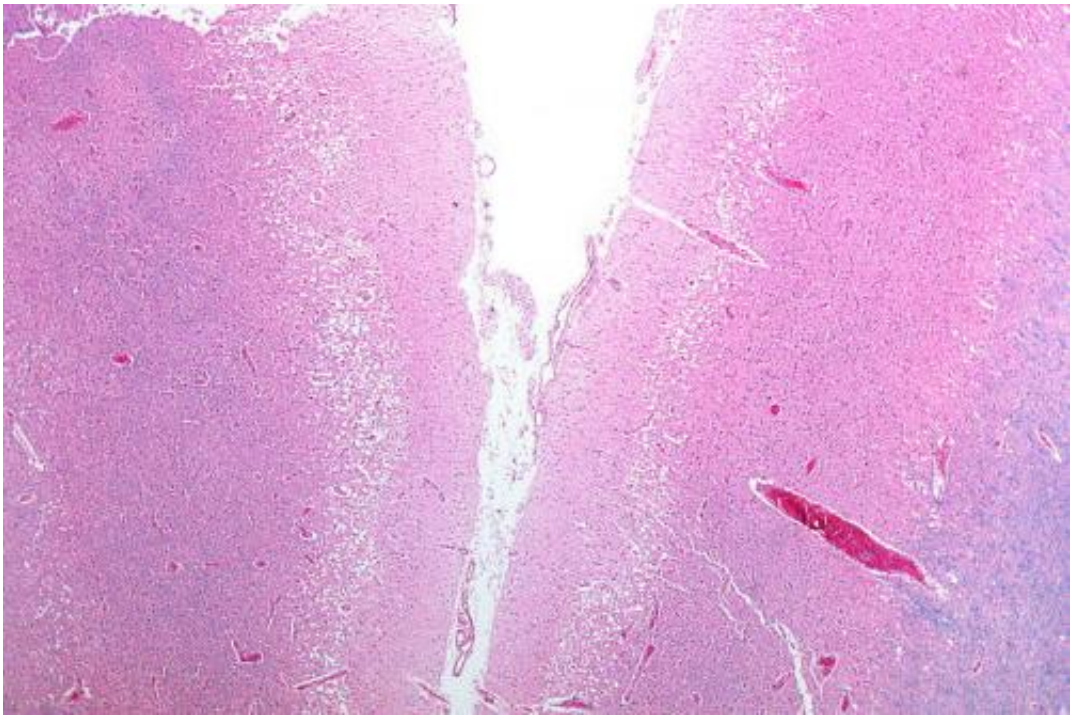
New study 'game-changer' for stroke treatment worldwide

February 11 2015



Micrograph showing cortical pseudolaminar necrosis, a finding seen in strokes on medical imaging and at autopsy. H&E-LFB stain. Credit: Nephron/Wikipedia

A landmark study published in the *New England Journal of Medicine* today heralds a new era in stroke treatment across the globe.

EXTEND-IA, an Australian and New Zealand randomised clinical research study, led by The Royal Melbourne Hospital (RMH), looked at

the effectiveness of a new treatment for stroke.

The study involved adding a minimally invasive clot removal procedure called stent thrombectomy to standard clot-dissolving therapy, known as tissue plasminogen activator (tPA).

Royal Melbourne Hospital Neurologist and co-principal investigator, Dr Bruce Campbell, said the study showed a dramatic improvement in restoring blood flow back to the brain, which is critical in the recovery of stroke.

"In 89 percent of patients blood flow to the brain was restored when the clot removal therapy was used compared with 34 percent of patients who had standard clot-dissolving therapy alone," Dr Campbell said.

"The addition of stent thrombectomy to standard clot-dissolving treatment led to 71 percent of patients returning to independent living, compared with 40 percent in the standard treatment group.

"This is an extremely impressive outcome given these patients had the most severe forms of stroke and dramatically reduces the burden of disability."

The most common form of stroke is an ischemic stroke, caused by a clot blocking a blood vessel that supplies the brain. Stroke is the leading cause of disability in adults and the number two cause of death worldwide.

The EXTEND-IA trial builds on an earlier Dutch study, MR-CLEAN, which was presented at the 9th World Stroke Congress, Istanbul 25 October 2014 and also published in the *New England Journal of Medicine*.

Director of The RMH's Neurointervention and co-principal investigator, Associate Professor Peter Mitchell, described EXTEND-IA and the MR-CLEAN study as a "game-changer' in the treatment of stroke across the globe.

"In treating stroke it is critically important to restore blood flow as soon as possible, "Associate Professor Mitchell said.

"The patients treated in EXTEND-IA had even better outcomes than in MR-CLEAN. The key differences were improved rates of opening the blocked blood vessel, earlier treatment and the use of more advanced brain imaging to select patients most likely to benefit.

"The new treatment, called stent thrombectomy, is a minimally invasive procedure performed via an angiogram. This involves inserting a small tube into an artery in the groin and feeding it up into the brain to capture the clot and remove it.

"The EXTEND-IA results indicate that stent thrombectomy will help thousands of Australians who suffer from an acute ischemic stroke and the challenge now is to implement stent thrombectomy as a standard treatment for stroke."

Provided by Royal Melbourne Hospital