The Ottawa Hospital | L'Hôpital d'Ottawa

Research project summary

# Aneurysmal Subarachnoid Hemorrhage - Red Blood Cell Transfusion and Outcome (SAHaRA):A Randomized Controlled Trial

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- Awarded $1,384,650 from the Canadian Institutes of Health Research (CIHR) in May 2017

Aneurysmal subarachnoid hemorrhage (aSAH) is the result of a burst artery in the brain. It affects young people (40-60 years), nearly half of whom will die, and a third will have permanent disability. Managing patients with aSAH is challenging because the recovering brain is very sensitive and at great risk of further injury (like new strokes) from a lack of blood flow. This risk period can last days to weeks. This may be made worse by having low blood levels (that is red blood cells called anemia), which is very common in these patients. With this study we aim to answer the question: does keeping blood levels higher with transfusion help these patients or just expose them to transfusions unnecessarily? The best way to answer a clinical question is with a controlled and well-conducted clinical trial. With our SAHaRA pilot trial we have shown our ability to conduct such a trial. In the trial we propose here, we aim to prove that maintaining a higher hemoglobin (blood) levels in the first 21 days following aSAH will result in less death and better outcomes 12 months after their aSAH. We will compare higher blood levels to the usual care of allowing blood levels to drop before considering transfusion. We will also assess the effect of these 2 treatment options several other outcomes. These include the effect on complications like stroke, time in an intensive care unit and hospital and on quality of life. It isn't clear right now when doctors should be treating low blood levels to improve patient outcomes. This study will provide the answer to this common and important question. It will help doctors better manage patients with aSAH.

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