ICU
MANAGEMENT & PRACTICE

Tranexamic Acid Reduces Head Injury Deaths

According to new research findings, early treatment with tranexamic acid could reduce deaths in traumatic brain injury patients by as much as 20%. The findings are published in The Lancet.

Every year, there are approximately 60 million new cases of TBI worldwide. Bleeding in or around the brain due to tearing of blood vessels is a common complication in patients with traumatic brain injury, which could lead to brain compression and death. Tranexamic acid prevents bleeding into the brain by inhibiting blood clot breakdown. The CRASH-3 trial was conducted to quantify the effects of tranexamic acid on head-injury related death, disability and adverse events in patients with traumatic brain injury.

More than 12,000 head injury patients from 175 hospitals across 29 countries were included in the study. Patients were either given intravenous tranexamic acid or placebo. Findings showed that the administration of TXA within three hours of injury reduced the number of deaths. Greatest effect was seen in patients with mild and moderate TBI, but no clear benefit was observed in the most severely injured patients. In addition, no evidence was found of adverse effects, and there was also no increase in disability among survivors when TXA was used.

Overall, the study found a substantial benefit in patients with less severe injuries. These are typically the majority of TBI cases. Findings showed a 10% reduction in treatment effectiveness for every 20-minute delay. This suggests that patients should be treated with TXA as soon as possible after a head injury.

Ian Roberts, Professor of Clinical Trials at the London School of Hygiene & Tropical Medicine, who co-led the study, said: "This hugely exciting new result shows that early treatment with TXA also cuts deaths from head injury. It's an important breakthrough and the first neuroprotective drug for patients with head injury... We believe that if our findings are widely implemented, they will boost the chances of people surviving head injuries in both high-income and low-income countries around the world."

Antoni Belli, Neurosurgeon, and Professor of Trauma Neurosurgery at the University of Birmingham and co-investigator for trial, said: "This is a landmark study. After decades of research and many unsuccessful attempts, this is the first ever clinical trial to show that a drug can reduce mortality after traumatic brain injury. Not only do we think this could save hundreds of thousands of lives worldwide, but it will no doubt renew the enthusiasm for drug discovery research for this devastating condition."

Source: The Lancet
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